

KENWOOD

AUDIO VIDEO SURROUND RECEIVER

VRS-N8100

INSTRUCTION MANUAL

KENWOOD CORPORATION

Quick Start Reference

Please read the following pages so that you can enjoy the surround sound at the best condition.

(These pages give shortcut explanations on how to connect the speaker system to the receiver, set up the speakers and play a source.)

"Let's play DVD video software" — 18 — 19

About the supplied remote control

Compared to standard remote controls, the remote control supplied with this receiver has several operation modes. These modes enable the remote control to control other audio/video components. In order to effectively use the remote control it is important to read the operating instructions and obtain a proper understanding of the remote control and how to switch its operation modes (etc.).

Using the remote control without completely understanding its design and how to switch the operation modes may result in incorrect operations.



MP3 / WMA



Before applying power

⚠ Caution : Read this page carefully to ensure safe operation.





Units are designed for operation as follows.

U.S.A. and Canada AC 120 V only Europe and U.K. AC 230 V only
Australia AC 240 V only

Preparations

Safety precautions

WARNING : TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

	<div>CAUTION</div> <div>RISK OF ELECTRIC SHOCK</div> <div>DO NOT OPEN</div>		CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.		
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.		

How to use this manual

This manual is divided into five sections, Preparations, Receiver Operations, Network Operations, Remote Control, and Additional Information.

Preparations

Shows you how to connect your audio and video components to the receiver and prepare the surround processor. Since this receiver works with all your audio and video components, we will guide you in setting up your system to be as easy as possible.

Receiver Operations

Shows you how to operate the various functions available on the receiver.

Network Operations

By installing the application KENWOOD PC SERVER in a PC, the data stored in the PC can be imported in the libraries for listening to or viewing music, movie and photographic data in the PC on the libraries.

Remote Control

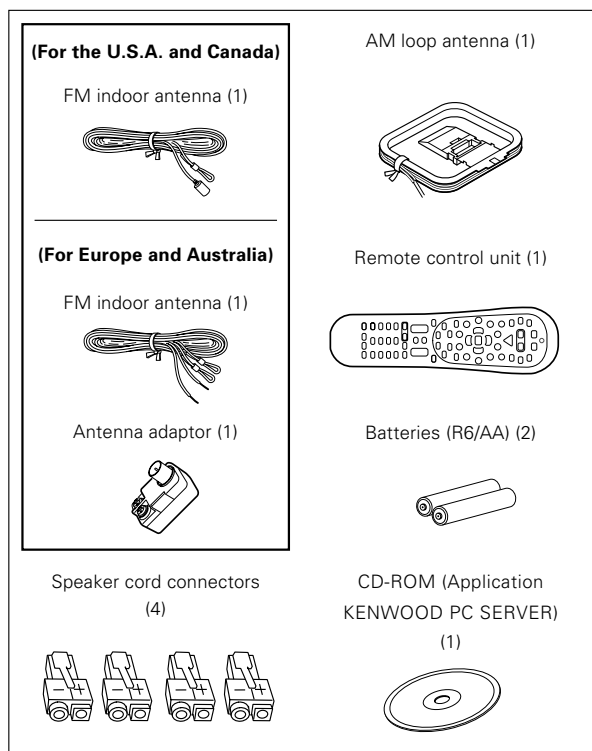
Shows you how to operate other components using the remote control, as well as a detailed explanation of all remote control operations. Once you have registered your components with the proper setup codes, you'll be able to operate both this receiver and your other AV components (TV, VCR, DVD player, CD player, etc.) using the remote control supplied with this receiver.

Additional Information

Shows you additional information such as "In case of difficulty" (trouble shooting) and "Specifications".

Unpacking

Unpack the unit carefully and make sure that all the accessories are present.



If any accessories are missing, or if the unit is damaged or fails to operate, notify your dealer immediately. If the unit was shipped to you directly, notify your shipper immediately. KENWOOD recommends that you retain the original carton and packing materials in case you need to move or ship the unit in the future.

Keep this manual handy for future reference.

Special features

Network function

Movie (video), music (audio) and photo (still image) data stored in the PC can be played back on a TV screen → 54

- ETHERNET jack → 10
- PC content editing/managing application
"KENWOOD PC SERVER" → 46

PC card slot → 59

A PC card slot is provided on the front panel to enable playback of images (JPEG) captured with a digital camera.

True home theater sound → 38 ~ → 40

This receiver incorporates a wide variety of surround modes to bring you maximum enjoyment from your video software and audio source. Select a surround mode according to your equipment or the software you are going to play and enjoy!

- Dolby Digital EX
- Dolby PRO LOGIC IIX, Dolby PRO LOGIC II
- Dolby Digital
- DTS-ES
- DTS NEO:6
- DTS 96/24
- DTS
- DSP Mode
- Dolby Virtual Speaker
- Dolby Headphone

"Supreme" data audio quality improvement technology

Compressed music data such as MP3 data tends to lack expansion because the high frequencies should be cut off during compression. "Supreme" is KENWOOD-original technology for reproducing more realistic sound by estimating and interpolating the high frequencies that have been lost during compression.

The "Supreme" function is activated when music data that has 44.1 kHz sampling rate of the MP3, WMA or Ogg Vorbis format is played back. (The effects are variable depending on the bit rate.)

GAME mode function → 24

When you connect a game machine to the **GAME** jacks on the front panel, the input selector of the receiver switches automatically to "GAME" and the optimum sound field for enjoying games is set.

This feature improves your convenience in playing video games.

DUAL SOURCE function → 31

While you enjoy audio listening through the speakers, another person can enjoy another source (audio + video) through headphones by connecting the source to the **GAME, FRONT AUX** jacks.

ACTIVE EQ → 32

ACTIVE EQ mode will produce a more dynamic sound quality in any condition. You can enjoy a more impressive sound effect when ACTIVE EQ is turned on during Dolby Digital and DTS playback.

Remote control → 62

In addition to the basic receiver, the remote control supplied with this receiver can also operate almost all of your remote controllable audio and video components. Just follow the simple setup procedure to register the components you have connected.

RDS (Radio Data System) tuner (For Europe) → 36

The receiver is equipped with an RDS tuner that provides several convenient tuning functions: RDS Auto Memory, to automatically preset up to 40 RDS stations broadcasting different programs; station name display, to show you the name of the current broadcast station; and PTY search to let you tune stations by program type.

PTY (Program TYPE) search (For Europe) → 37

Tune the stations by specifying the type of program you want to hear.

Playable files with this unit

Some files may be unable to be played correctly on this unit depending on the conditions of data, connection environment and the PC in use.

■ Video data (MOVIE file) [Max. file size 2GB]

Item	Format	Extension	Detail	Audio
MPEG1	—	MPG/MPEG	Video resolution: 720 x 576 (Max.)/ Bitrate: 1.5 Mbps (Max.)	MPEG1 LAYER 1 & 2
MPEG2	—	MPG/MPEG	Video resolution: 720 x 576 (Max.)/ Bitrate: 8 Mbps (Max.)	MPEG1 LAYER 1 & 2
DivX® VIDEO *1	—	AVI	Video resolution: 720 x 576 (Max.)	WAV/MP3/ Dolby Digital
XviD	—	AVI	Video resolution: 720 x 576 (Max.)/ Bitrate: 6 Mbps (Max.)	WAV/MP3/ Dolby Digital

■ Audio data (MUSIC file) [Max. file size 2GB]

Item	Format	Extension	Detail
MPEG Audio	MPEG 1 AUDIO	MP1	LAYER 1/ Bitrate: 32~448 kbps/ CBR, VBR/ FS 32k, 44.1k, 48k
		MP2	LAYER 2/ Bitrate: 32~384 kbps/ CBR, VBR/ FS 32k, 44.1k, 48k
		MP3	LAYER 3 (MP3)/ Bitrate: 32~320 kbps/ CBR, VBR/ FS 32k, 44.1k, 48k
WMA	Ver8	WMA	Bitrate: 48~192 kbps/ CBR/ FS 32k, 44.1k, 48k
	Ver9	WMA	Bitrate: 48~192 kbps/ CBR, VBR/ FS 32k, 44.1k, 48k
WAV	—	WAV	16 bit/ FS 44.1k, 48k
Ogg Vorbis	—	OGG	Bitrate: 64~256 kbps/ FS 32k, 44.1k, 48k

■ Photo data (PHOTO file)

Item	Extension	Detail
JPEG	JPG/JPEG	24 bit True Color/ Max. file size 5MB
BMP *2	BMP	24 bit True Color/ Max. file size 5MB
GIF *2	GIF	24 bit True Color/ Max. file size 5MB
PNG *2	PNG	24 bit True Color/ Max. file size 5MB

■ Memory Card



Item	Extension	Detail
JPEG	JPG/JPEG	24 bit True Color/ Max. resolution 2,048 x 1,536/ Max. file size 2MB

*1 Plays DivX®5, DivX®4, DivX®3, DivX®VOD video content (in compliance with DivX Certified™ technical requirements)
Official DivX Certified™ product

*2 The photo data is converted into the JPEG format data when it is imported in the library.

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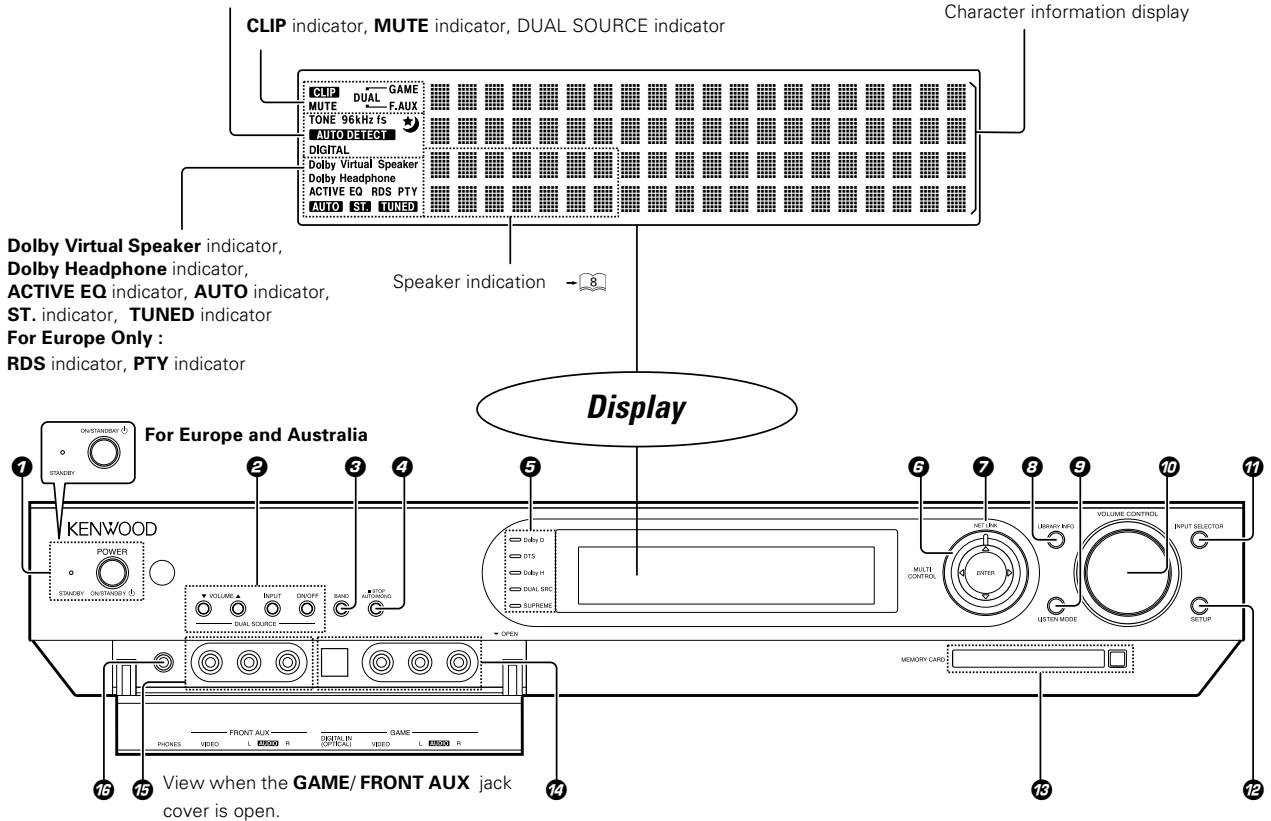
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 36			
	Tuning by Program TYpe (PTY search)			
 37			
		In regard to contact cleaners	Do not use contact cleaners because it could cause a malfunction. Be	
			specially careful not to use contact cleaners containing oil, for they	
			may deform the plastic component.	

Names and functions of parts

Main unit

TONE indicator, 96kHz fs indicator, AUTO DETECT indicator, DIGITAL indicator, Sleep Timer indicator



1 POWER ON/STANDBY key

Use to turn the power ON/STANDBY. (For the U.S.A. and Canada) - [20] - [26]

ON/STANDBY key

Use to turn the power ON/STANDBY. (For Europe and Australia) - [20] - [26]

STANDBY indicator

Lights when the power is in the standby mode.

2 DUAL SOURCE VOLUME / keys

Use to adjust the volume in the DUAL SOURCE mode. - [31]

DUAL SOURCE INPUT key

Use to select the input for the DUAL SOURCE mode. - [31]

DUAL SOURCE ON/OFF key

Use to switch the DUAL SOURCE mode ON/OFF. - [31]

3 BAND key

Use to select the radio broadcast band. - [34]

4 STOP AUTO/MONO key

Use to perform the network server operations. - [57] - [61]

Use to select the auto or manual tuning mode. - [34]

5 Dolby D indicator

Lights when the receiver is in the Dolby Digital mode. - [41]

DTS indicator

Lights when the receiver is in the DTS mode. - [41]

Dolby H indicator

Lights when the Dolby Headphone mode is ON. - [40]

DUAL SRC indicator

Lights when the DUAL SOURCE mode is ON. - [31]

SUPREME indicator

Lights when the SUPREME function is activated. - [3]

6 Joystick

MULTI CONTROL /

Use to perform the network setup or speaker setup. - [20] - [26] - [54] - [59]

Use to tuning of radio broadcasting. - [34]

MULTI CONTROL /

Use to perform the network setup or speaker setup. - [20] - [26] - [54] - [59]

Use to selection of preset radio stations. - [35]

ENTER

Use to establish a selection.

- [20] - [26] - [54] - [59]

Use to presetting of radio stations. - [34]

7 NET LINK indicator

Lights when the connection to the network is established.

8 LIBRARY INFO key

Use to display the library list of the PC server on the display of this unit. - [59]

9 LISTEN MODE key

Use to select the listening mode. - [41]

10 VOLUME CONTROL knob

Use to adjust the receiver volume. - [30]

11 INPUT SELECTOR key

Use to select input sources. - [30]

12 SETUP key

Use to perform the network setup or speaker setup. - [20] - [26]

Also use to switch the REC mode ON and OFF. - [33]

13 PC card slot

Use to play images captured using a digital camera. - [59]

PC card eject button - [59]

14 GAME jacks

- [16] - [24] - [31]

15 FRONT AUX jacks

- [16] - [31]

16 PHONES jack

Use for headphone listening. - [31]

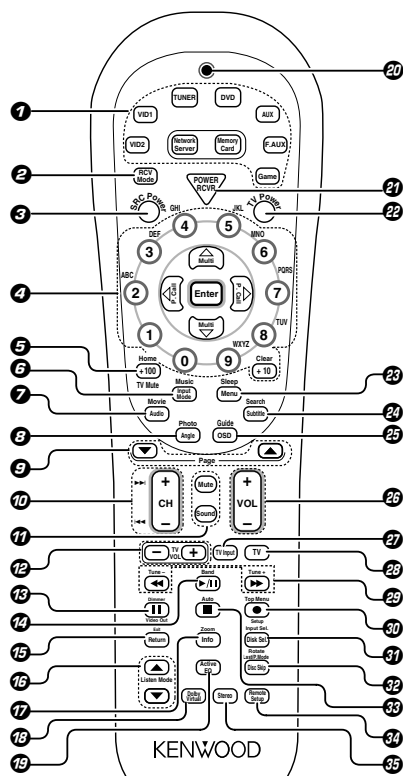
Standby mode

While the standby indicator is lit, a small amount of power is supplied to the system to back up the memory. This is called standby mode. Under the condition, the system can be turned ON by the remote control unit.

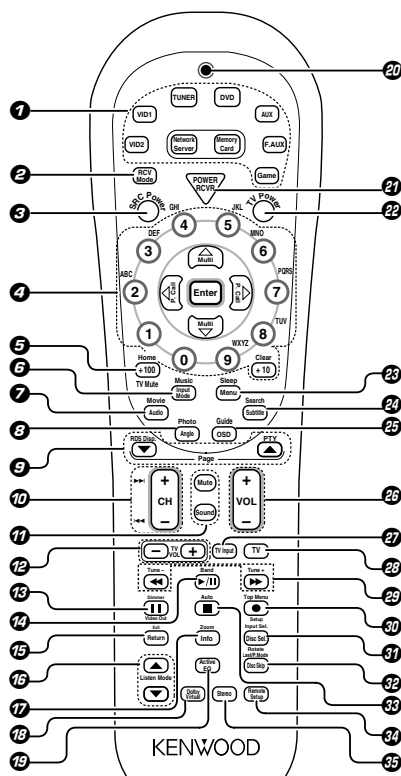
Remote control unit

This remote control unit can be use not only for Kenwood products but also for other non-Kenwood products by setting the appropriate manufacturer's setup codes. → [64](#)

For the U.S.A., Canada and Australia: RC-R0826



For Europe : RC-R0826E



If the name of a function is different on the receiver and on the remote control, the name of the remote control key in this manual is indicated in parentheses.

1 Input Selector keys (TUNER, DVD, VID 1, VID 2, AUX, F. AUX, Game, Network Server, Memory Card)

Use to select input sources. → [30](#)

Sources keys (DVD, VID 1, VID 2, AUX, F. AUX, Game)

To control one of the registered sources without switching the receiver's input selector to that source, press and hold the desired input selector key for more than 3 seconds. → [62](#)

2 RCV (receiver) Mode key

Use to switch the remote control to the receiver control mode. → [43](#)

3 SRC (source) Power key

Use to turn the other components ON/OFF. → [62](#)

4 Numeric keys

Use to input numeric or alphabetic characters. → [26](#) → [57](#)

Use to selection of preset radio stations. → [35](#)

Use to operate other components. → [62](#)

Clear key

Use to clear a character input by mistake. → [26](#) → [57](#)

Multi (Δ/▽) keys

Use to perform the network setup or speaker setup.

→ [20](#) → [26](#) → [54](#) → [59](#)

Use to tuning of radio broadcasting. → [34](#)

Use to operate other components. → [62](#)

P.Call </> keys

Use to perform the network setup or speaker setup.

→ [20](#) → [26](#) → [54](#) → [59](#)

Use to selection of preset radio stations. → [35](#)

Enter key

Use to establish a selection. → [20](#) → [26](#) → [54](#) → [59](#)

Use to operate other components. → [62](#)

5 Home key

Use to perform the network server operations. → [55](#) → [60](#)

+100 key

Use to operate other components. → [62](#)

TV Mute key

Use to temporarily mute the TV sound. → [62](#)

6 Music key

Use to perform the network server operations. → [54](#)

Input Mode key

Use to switch between the full auto, digital and analog input. → [9](#)

7 Movie key

Use to perform the network server operations. → [54](#)

Audio key

Use to operate the DVD component. → [62](#)

8 Photo key

Use to perform the network server operations. → [54](#)

Angle key

Use to operate the DVD component. → [62](#)

9 Page ▲/▼ keys

Use to perform the network server operations. → [55](#) → [60](#)

Use to operate the DVD component. → [62](#)

(For Europe only)

RDS Disp. key

Use to receive RDS broadcast. → [36](#)

PTY key

Use for PTY search. → [37](#)

Continued to next page

10 ►► / ◀◀ keys

Use to perform the network server operations. → [57] → [61]

Use to operate the CD, DVD or MD component. → [62]

CH +/- keys

Use to select the channels. → [62]

11 Mute key

Use to temporarily mute the sound. → [32]

Sound key

Use to adjust the sound quality and the ambience effects. → [31] → [32] → [43]

12 TV VOL +/- keys

Use to adjust the TV's volume. → [62]

13 Video Out key

Use to switch the video output temporarily. → [27] → [58]

Dimmer key

Use to adjust the brightness of the display. → [45]

■ key

Use to operate other components. → [62]

14 ►/■ key

Use to perform the network server operations. → [57]

Use to operate the CD, DVD, MD or VCR component. → [62]

Band key

Use to select the broadcast band. → [34]

15 Return key

Use to perform the network server operations. → [57] → [61]

Use to operate the DVD component. → [62]

Exit key

Use to operate other components. → [62]

16 Listen Mode ▲/▼ keys

Use to select the listening mode. → [41]

17 Zoom key

Use to perform the network server operations. → [58] → [61]

Info key

Use to operate other components. → [62]

18 Dolby Virtual key

Use to select the Dolby Virtual mode. → [40]

19 Active EQ key

Use to select ACTIVE EQ 's setting. → [32]

20 LED indicator

Blinks to show that signals are being transmitted.

21 POWER RCVR (receiver) key

Use to turn the receiver ON/STANDBY. → [20] → [26]

22 TV Power key

Use to turn the TV on and off. → [62]

23 Sleep key

Use to set the Sleep timer. → [45]

Menu key

Use to operate other components. → [62]

24 Search key

Use to perform the network server operations. → [57]

Subtitle key

Use to operate the DVD component. → [62]

25 OSD key

Use to operate the memory card. → [61]

Use to operate the DVD component. → [62]

Guide key

Use to operate other components. → [62]

26 VOL +/- keys

Use to adjust the receiver volume. → [30]

27 TV Input key

Use when in TV operation. → [62]

28 TV key

Use when in TV operation. → [62]

29 ◀◀ / ▶▶ keys

Use to perform the network server operations. → [57]

Use to operate the CD, DVD, MD or VCR component. → [62]

Tune +/- keys

Use to tuning of radio broadcasting. → [34]

30 Setup key

Use to perform the network setup or speaker setup. → [20] → [26]

● key

Use to operate the MD or VCR component. → [62]

Top Menu key

Use to operate the DVD component. → [62]

31 Rotate key

Use to perform the network server operations. → [58] → [61]

Disc Sel. key

Use to operate other components. → [62]

Input Sel. key

Use to operate other components. → [62]

32 P.Mode key

Use to perform the network server operations. → [57]

Disc Skip key

Use to operate the the multi-CD player. → [62]

Last key

Use to operate other components. → [62]

33 ■ key

Use to perform the network server operations. → [57] → [61]

Use to operate the CD, MD, DVD or VCR component. → [62]

Auto key

Use to select the auto or manual tuning mode. → [34]

34 Remote Setup key

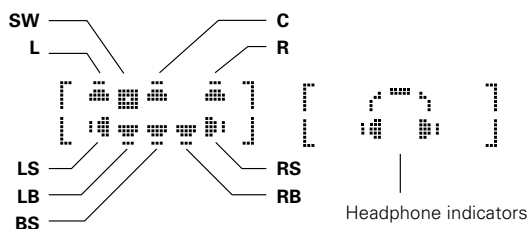
Use to register other components. → [62]

35 Stereo key

Use to switch the listen mode temporary to the stereo mode. → [42]

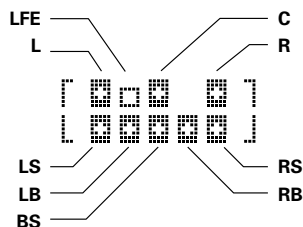
Speaker indication

Output channel indicators :



The output channel indicators light up to indicate the audio signals output from this unit. Headphone display is displayed when headphones are connected.

Input channel indicators :



The Input channel indicators lights up to indicate the channels contained in the input signal.

Setting up the system

CAUTION

Make sure that the power cord plug is disconnected from the AC wall outlet before proceeding to connections. Also be sure to disconnect the power cord plug from the AC wall outlet before changing connections. For the connections of other system components, see pages 10 to 17.

When connecting an associated system component, be sure to read its instruction manual.

Microcomputer malfunction

If operation is not possible or an erroneous display appears, even though all connections have been made properly, reset the micro computer referring to "In case of difficulty". → 78

Notes

1. Be sure to turn off the system components before connecting them.
2. Be sure to insert every connection cable completely into the jack. Incomplete connection may result in absence of audio output or production of noise.
3. Be sure to disconnect the power cord from the AC wall outlet before inserting or removing a connection cable.
4. Installation of outdoor antenna is a dangerous work. Please have your dealer or a specialized technician install it.
5. Select the speaker installation locations with care. If a speaker is installed near a source of magnetism including a magnet, the mutual interference with the speaker may produce color irregularities on the TV screen.

Analog audio connections

Audio connections are made using RCA pin cords. These cables transfer stereo audio signal in an "analog" form. This means the audio signal corresponds to the actual audio of two channels. These cables usually have 2 plugs on each end, one red for the right channel and one white for the left channel.

These cables are to be prepared separately by the user.

CAUTION

Be sure to adhere to the following, or proper ventilation will be blocked causing damage or fire hazard.

- Do not place any objects impairing heat radiation onto the top of the unit.
- Leave some space around the unit (from the largest outside dimension including projection) equal to or greater than, shown below.

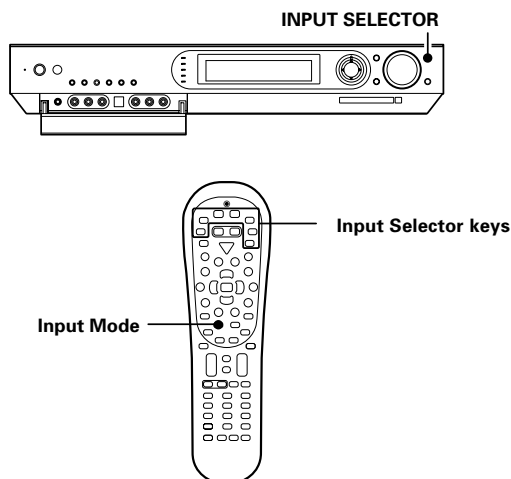
Top panel	: 50 cm
Side panel	: 10 cm
Back panel	: 10 cm

Input mode settings

DVD, VIDEO 1, VIDEO 2, AUX and GAME inputs each include jacks for digital audio input and analog audio input.

The initial factory settings for audio signal playback for DVD, VIDEO 1, VIDEO 2, AUX and GAME are full auto.

After completing connections and turning on the receiver, follow the steps below.



① Use the INPUT SELECTOR key (or Input Selector keys) to select DVD, VIDEO 1, VIDEO 2, AUX or GAME.

② Press the Input Mode key.

Each press switches the setting as follows:

- ① Auto detect:
(**"AUTO DETECT"** indicator lights up)
 - ② Fixed to digital input:
(**"DIGITAL"** indicator lights up)
 - ③ Fixed to analog input: *
- (**"AUTO DETECT"**, **"DIGITAL"** indicator goes off)
- * Can not be selected for DTS playback.

Auto detect:

In **FULL AUTO** mode (**"AUTO DETECT"** indicator lights up), the receiver detects the digital or analog input signals automatically. The receiver will select the input mode and listening mode automatically during playback to match the type of input signal (Dolby Digital, PCM, DTS) and the speaker setting. → 41

The **"DIGITAL"** indicator lights up when a digital signal is detected. The **"DIGITAL"** indicator is extinguished when no digital signal is detected.

Fixed to digital input:

Select this mode if you want to keep the decoding condition (Dolby Digital, DTS, PCM, etc.) in the current listen mode. When **DIGITAL MANUAL** mode is selected, the set listen modes may be changed automatically depending on the listen mode. → 41

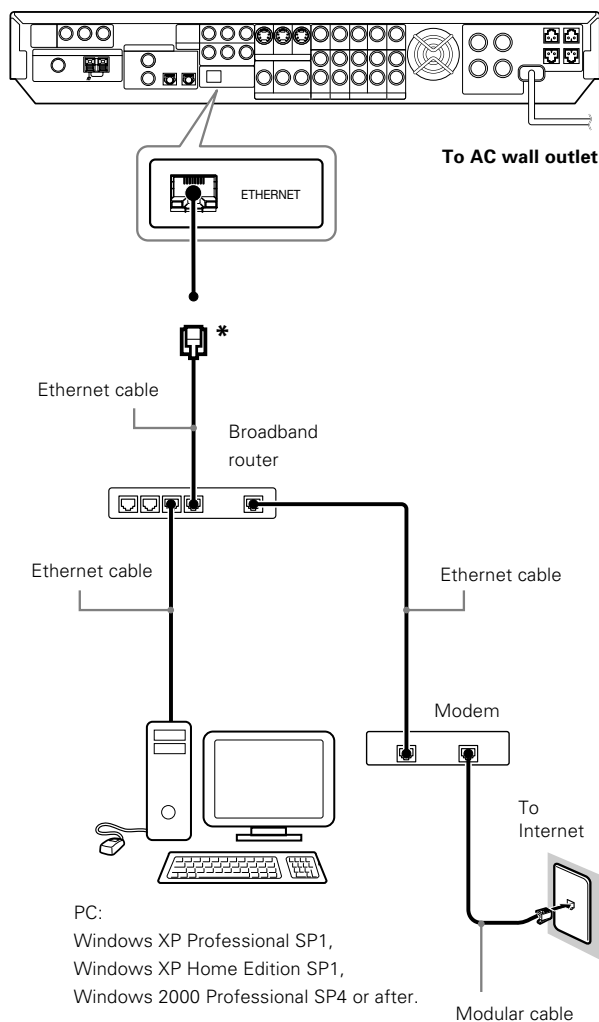
Fixed to analog input:

Select this setting to play analog signals from a VCR, etc.

If the **Input Mode** key is pressed quickly, sound may not be produced. Press the **Input Mode** key again.

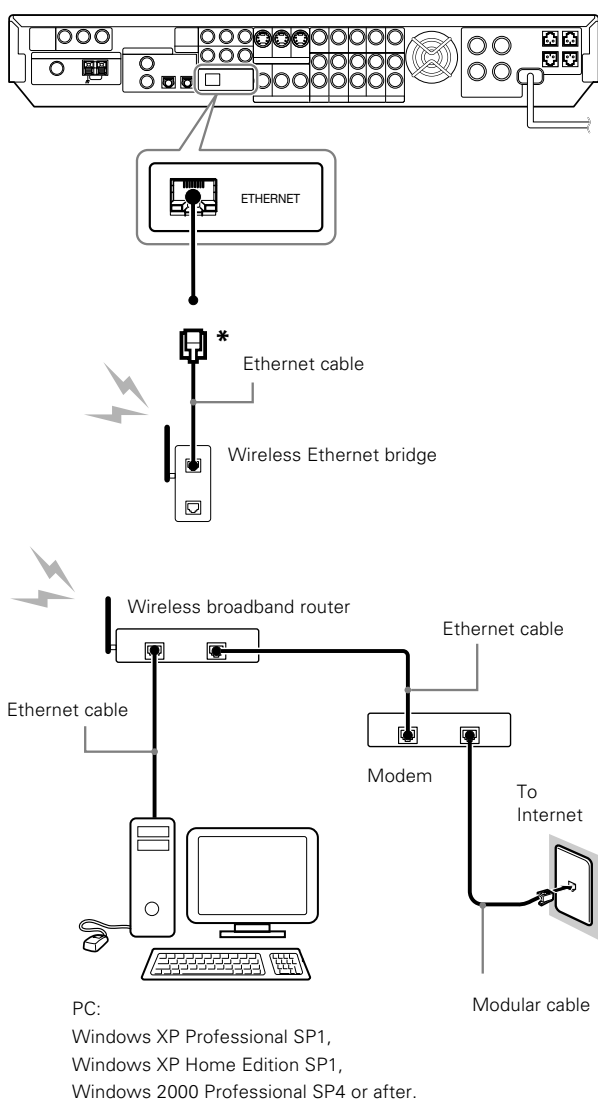
Connecting Ethernet cable

When not using a broadband router or hub, connect this unit directly to the PC using a cross Ethernet cable. In this case, it is required to set the IP address and subnet mask manually. → 29



Connecting wireless LAN

Connect the wireless Ethernet bridge to the **ETHERNET** jack on the rear panel.

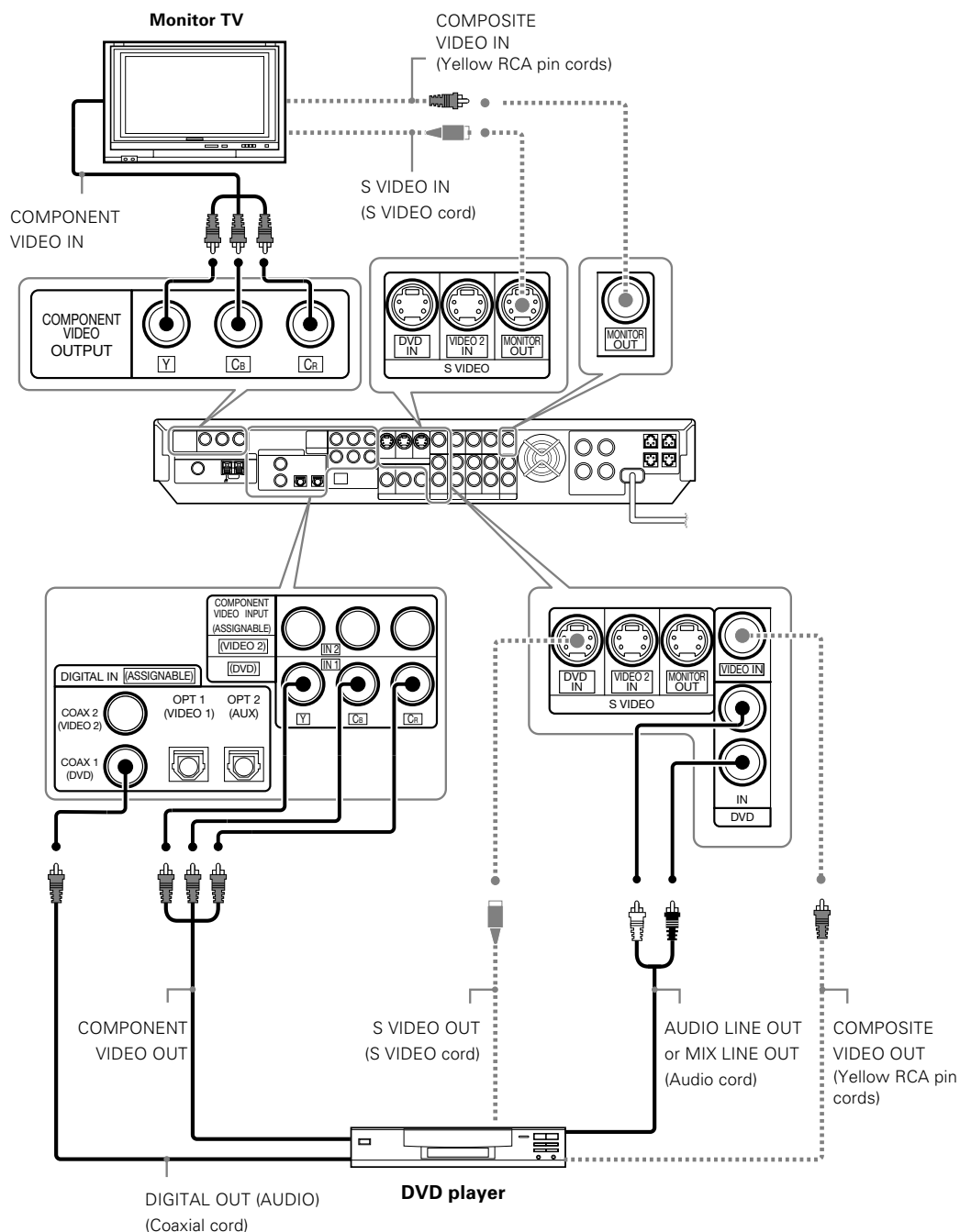


* Please refer to the instruction manual of your router or hub. Depending on your router or hab they may in rare case not work with a cross Ethernet cable.

- This unit is not provided with the Internet connection facility.
- When this unit is connected to a PC, FM broadcast reception may be interfered with noise. In this case, try the following remedial actions.
 1. Increase the distance between this unit and the PC.
 2. When the provided FM indoor antenna is in use, replace it with the FM outdoor antenna. → 17
 3. Replace the Ethernet cable with a shielded cable.

Connecting a DVD player

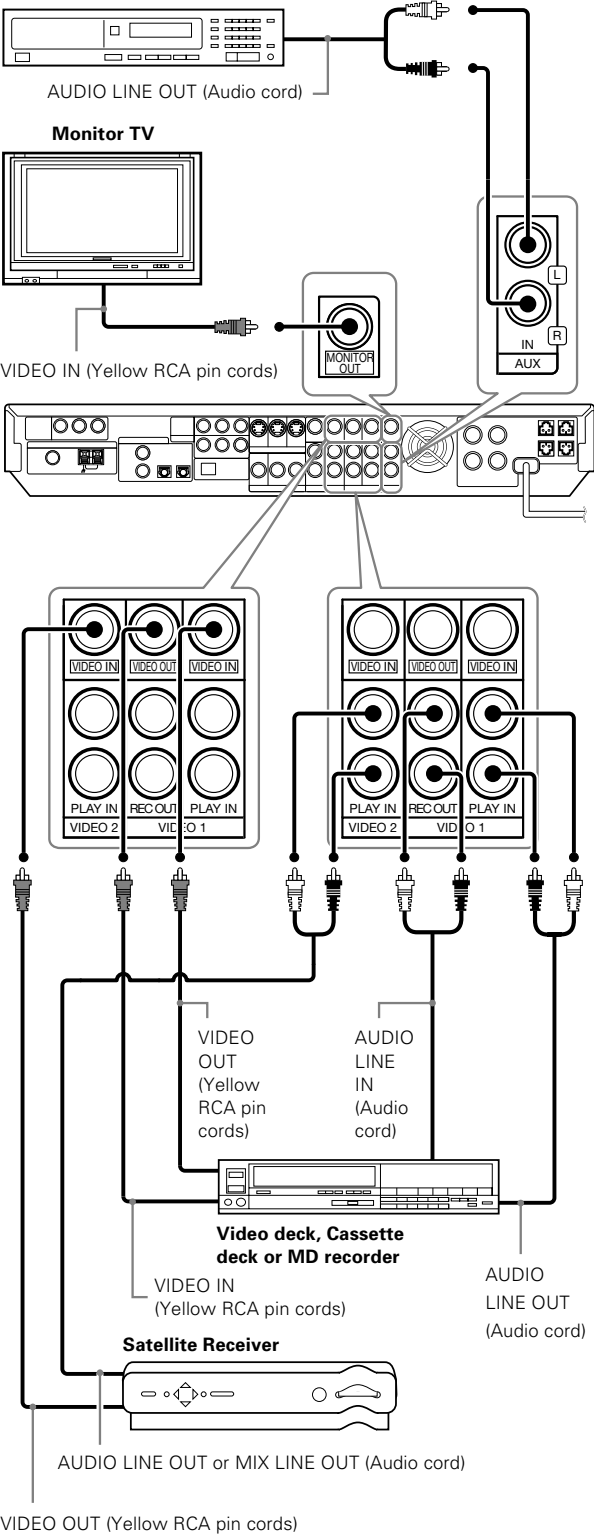
If you have connected a DVD player to the receiver with digital connection, be sure to read the "Input mode settings", "Re-assignment of rear panel jacks" section carefully. → 9 → 25



- Digital audio connections are required when playing multi-channel signals such as the Dolby Digital and DTS signals.
- To play the DVD player connected in this page, select the "DVD" input selector. → 30

Connecting video components, audio components

Audio components

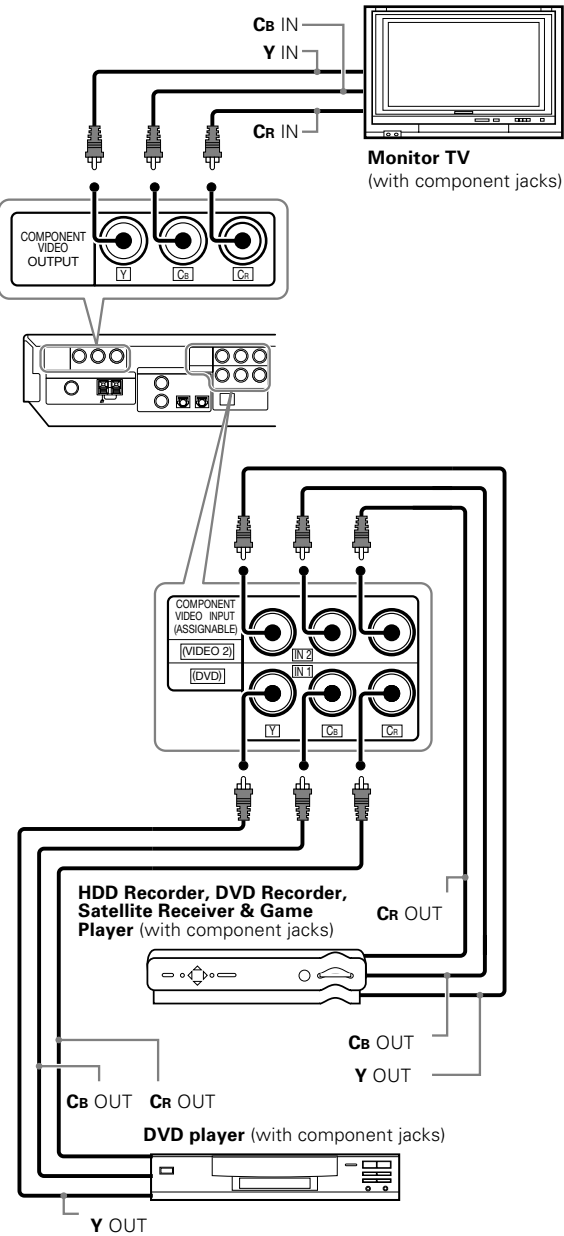


Connecting video components (COMPONENT VIDEO)

If you have connected the receiver to a video component with **COMPONENT** jacks, you can get a better picture quality than by connecting to the **S VIDEO** jacks.

When connecting a video component with **COMPONENT** jacks, see "Re-assignment of rear panel jacks" - 26

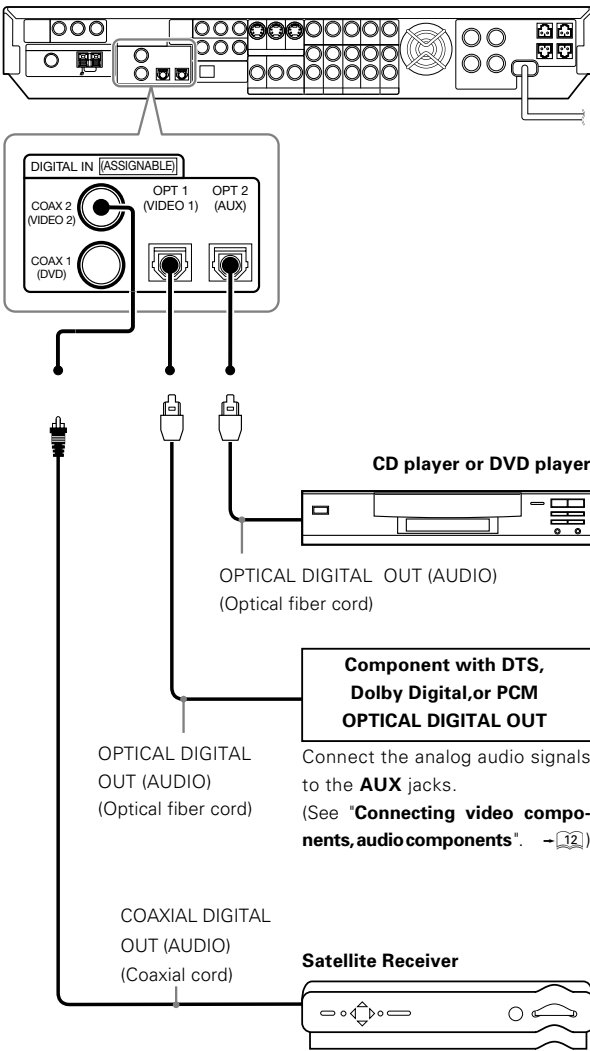
When connecting the TV to the **COMPONENT** jacks, be sure to connect all the other components to the **COMPONENT** jacks.



Digital connections

The digital in jacks can accept DTS,Dolby Digital,or PCM signals.Connect components capable of outputting DTS,Dolby Digital or PCM (CD) digital signals.

If you have connected a DVD player to the receiver with digital connection,be sure to read the "Input mode settings", "Re-assignment of rear panel jacks" section carefully. → 9 → 25



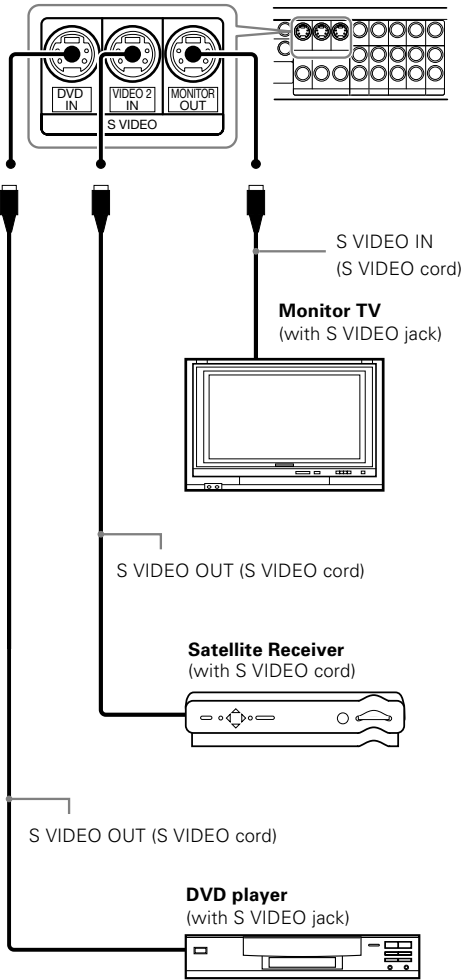
DTS disclaimer clause

When playing DTS-encoded discs, excessive noise will be exhibited from the analog stereo outputs of the CD or DVD player. To enjoy DTS Digital Surround™ playback, this unit must be connected to the digital output of the CD or DVD player.

Connecting video components (S VIDEO)

Use the S VIDEO jacks to make connections to video components with S VIDEO IN/OUT jacks.

- If you use the S VIDEO jacks to connect your video playback components, be sure to use the S VIDEO jacks when connecting your monitor and video recording components.



Connecting the speakers

CAUTION

Make sure that the power cord plug is disconnected from the AC wall outlet before proceeding to speaker cord connections. If the conductor wires on the extremity of speaker cord are untwisted, there is a risk of short-circuiting. Be sure to twist them well before connecting the speaker cord.

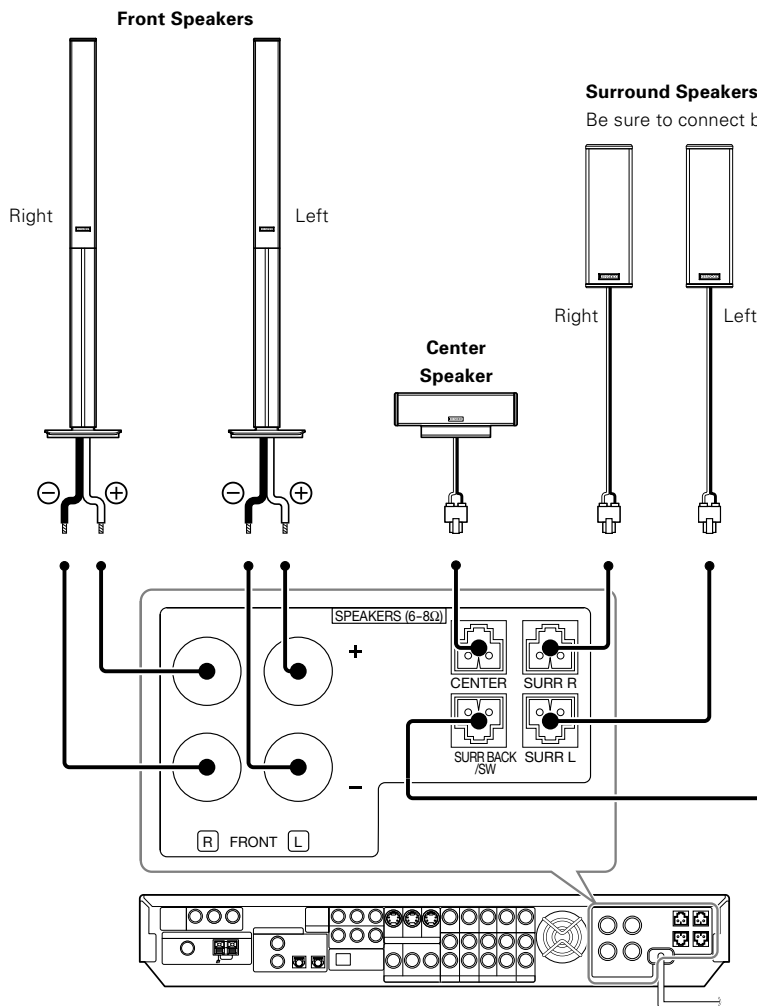
Whether each speaker is connected properly can be confirmed by outputting the test tone and checking if each speaker channel outputs audio. For details, see "Speaker settings" (Step 2 Adjust the speaker volume level). → 23

Protection circuitry

This unit incorporates protection circuitry, which may be activated during high-power reproduction or in case of extreme rise in temperature.

When the protection circuitry is activated, the output from this unit is shut down and the **STANDBY** indicator blinks.


In this case, turn this unit OFF then ON again and reduce the output volume level.



Connecting the speaker terminals


Front

1 Strip coating.




Twist


2 Loosen.



3 Insert.



4 Secure.



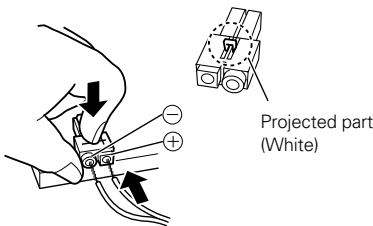
Center, Surround, Surround back, Subwoofer,

Attaching the speaker cord connectors;
Connect each speaker cord by matching the color of the connector with that of the terminal to which the speaker cord is to be connected.

Before connection, strip the vinyl coating by about 1 cm (0.4 in.) from each end of each speaker cord and twist the conductor wires so that they are not unbraided.

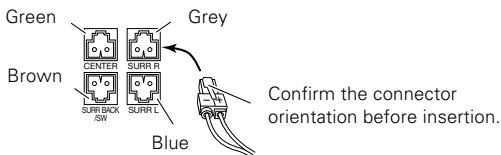
Connected speaker	Connector	Connected terminal
Center speaker	Green	CENTER
Surround speaker (Right)	Grey	SURR R
Surround speaker (Left)	Blue	SURR L
Surround back speaker or Subwoofer	Brown	SURR BACK/SW

While applying the projected part of the connector against a hard desktop, etc., insert the conductor sections of the speaker cord into the connector.



- After attaching the speaker cord connector, hold it and pull the speaker cord lightly to ensure that it will not come out.

Connect the connector to the terminal on the receiver with the same color by inserting the connector straight until it clicks.



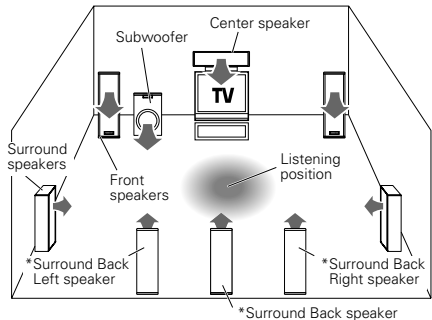
Be sure to use speaker cords matching the following requirements:
[AWG24-18 standard (conductor section diameter 0.511 to 1.024 mm(0.02 to 0.04 in.))]

- Never short circuit the + and – speaker cords.
- If the left and right speakers are connected inversely or the speaker cords are connected with reversed polarity, the sound will be unnatural with ambiguous acoustic imaging. Be sure to connect the speakers correctly.

Speaker impedance

After confirming the speaker impedance indications printed on the rear panel of the receiver, connect speakers with matching impedance ratings. Using speakers with a rated impedance other than that indicated on the rear panel of the receiver could result in malfunctions or damage to the speakers or receiver.

Speaker placement



* For Surround Back speaker, you may place either two Surround Back speakers (Surround Back Left speaker and Surround Back Right speaker) for 7.1 channel surround sound system or one Surround Back speaker for 6.1 channel surround sound system.

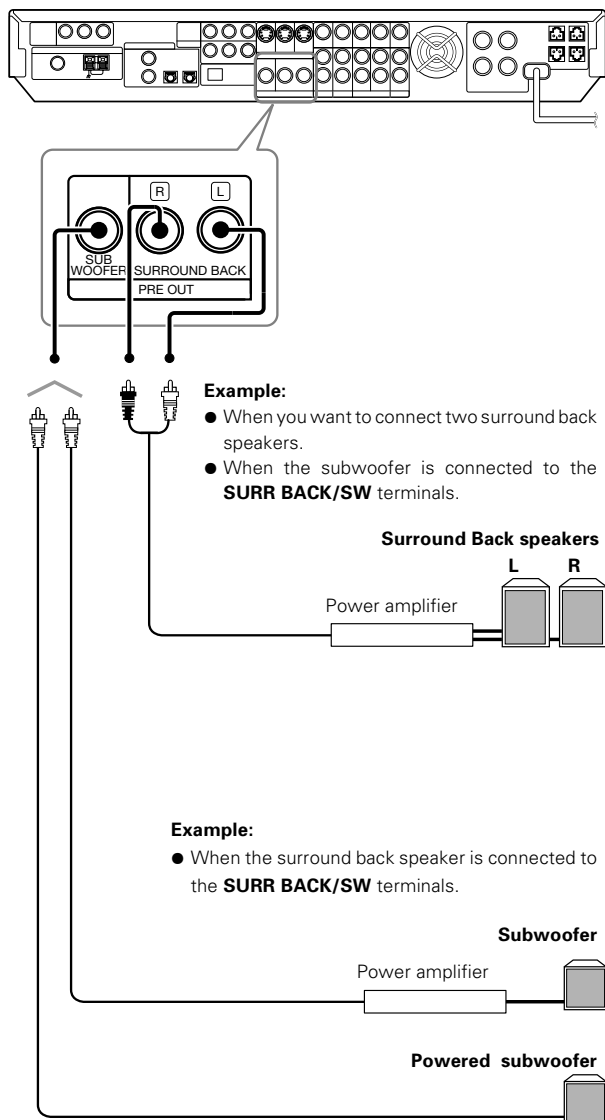
- Front speakers:** Place the left and right speakers at each side of your TV. Angle the speakers towards the listening area to enhance the stereo effect.
- Center speaker :** Place the center speaker on the center between the front left and right speakers. Tilt the speaker upward or down-ward so that it is directly facing the listening area.
- Surround speakers :** Place the surround speakers as high as possible, either directly to the sides of the listening area or else slightly behind the listening area. Adjust the angles so that these speakers are facing directly towards the listeners.
- Subwoofer :** Usually, place the subwoofer in the front center position in the listening room, near one of the front speakers near the center speaker. (Since the subwoofer has less directivity than other speakers, it can be placed almost in any position that can offer the best low frequency reproduction according to the room layout.)
- Surround back speakers :** Place the surround back speaker behind the listening position, at the same height as the left and right surround speakers.
- Although the ideal surround system consists of all the speakers listed above, if you don't have a center speaker or a subwoofer, you can divide those signals between the available speakers in the speaker settings steps to obtain the best possible surround reproduction from the speakers you have available. → [20]

PRE OUT jacks connections

The receiver has additional **PRE OUT** jacks.

Note that the output from the **PRE OUT** jacks needs to be connected to an external power amplifier.

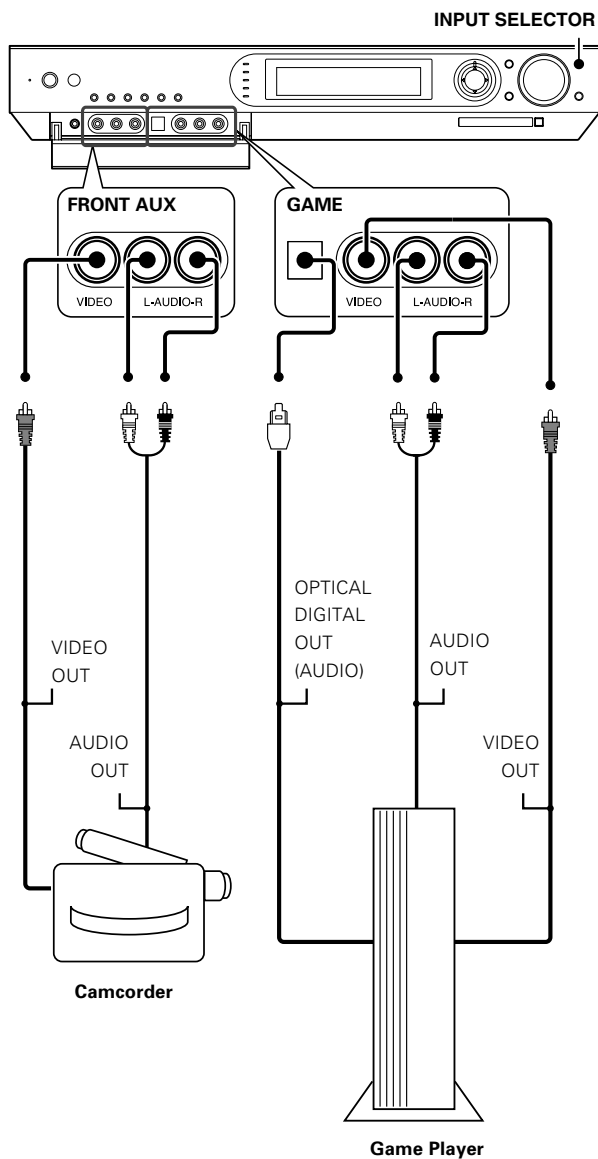
If you want to connect surround back speakers to these jacks, be always sure to connect two surround back speakers for the left and right.



- Connecting a speaker cord directly to a PRE OUT jack will not produce any sound from the speaker.

Connecting to the GAME jacks / FRONT AUX jacks

If you use a component that you do not usually connect to the receiver, such as a portable video camera, connect it to the **GAME** or **FRONT AUX** jacks on the front panel of the receiver. These jacks are particularly convenient when dubbing audio/video from a portable video camera.



- The **DIGITAL IN (OPTICAL)** jack in the GAME jack section can be used for connection of digital audio input. This is convenient for playing a video game through the receiver. → 24

Connecting the antennas

The broadcast reception cannot be made unless the antennas are connected. Connect the antennas correctly as instructed below.

AM loop antenna

The supplied loop antenna is for use indoors. Place it as far as possible from the receiver, TV set, speaker cords and power cord, and adjust the direction for best reception.

AM antenna terminal connections

1 Push lever.

2 Insert cord.

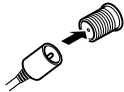
3 Release lever.

FM indoor antenna

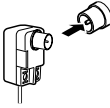
The supplied indoor antenna is for temporary use only. For stable signal reception we recommend using an outdoor antenna. Disconnect the indoor antenna when you connect one outdoors.

FM antenna terminal connections

Insert the connector



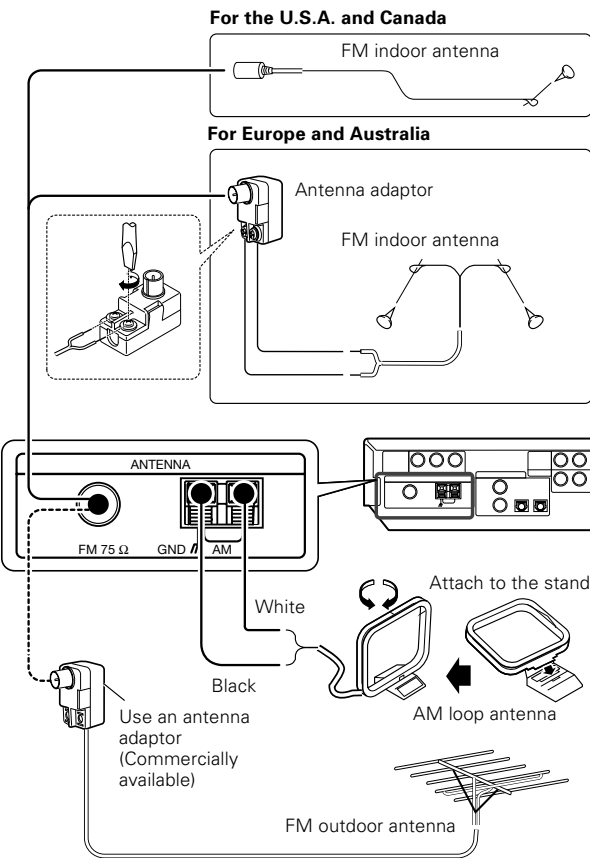
(For the U.S.A. and Canada)



(For Europe and Australia)

FM outdoor antenna

Lead the 75Ω coaxial cable connected to the FM outdoor antenna into the room and connect it to the FM 75Ω terminal.



Preparing the remote control

Loading the batteries

1 Remove the cover.

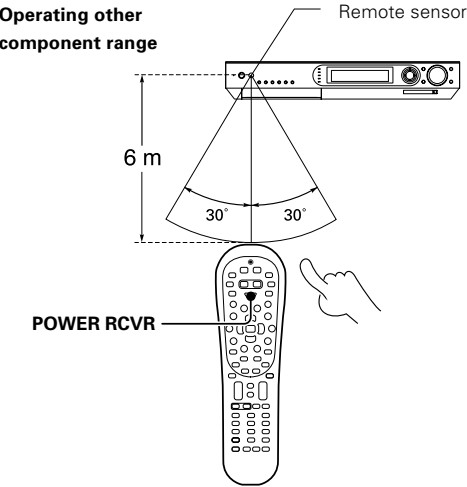
2 Insert the batteries.

3 Close the cover.

● Insert two AA-size (R6) batteries as indicated by the polarity markings.

Remote control operation

When the **STANDBY** indicator is lit, the power turns ON when you press the **POWER RCVR** on the remote control. When the power comes ON, press the key you want to operate.



- When pressing more than one remote control key successively, press the keys securely by leaving an interval of 1 second or more between keys.

Notes

1. The supplied batteries may have shorter lives than ordinary batteries due to use during operation checks.
2. When the remote-controllable distance gets shorter than before, replace both batteries with new ones.
The remote control unit is designed so that the setup codes stored in it are saved even after the batteries are removed for replacement.
3. Placing the remote sensor in direct sunlight, or in direct light from a high frequency fluorescent lamp may cause a malfunction.
In such a case, change the location of the system installation to prevent malfunction.

STEP 1 Connect the speakers, TV and DVD to the receiver

For details, see "Setting up the system" - 9 ~ - 16

Preparations

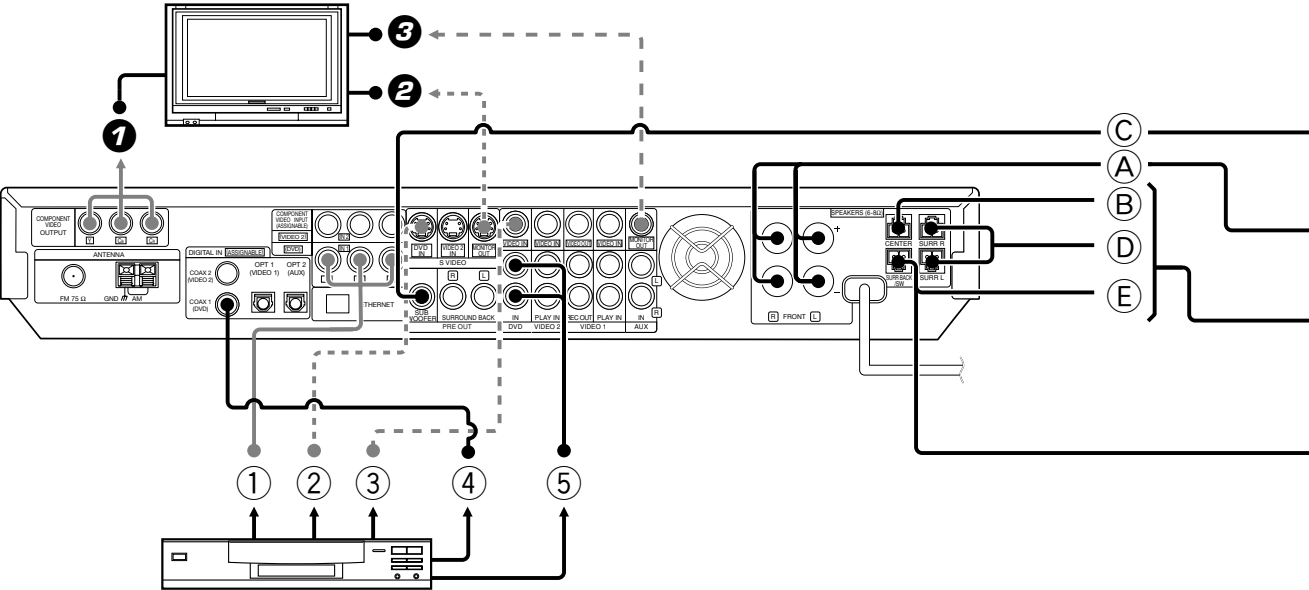
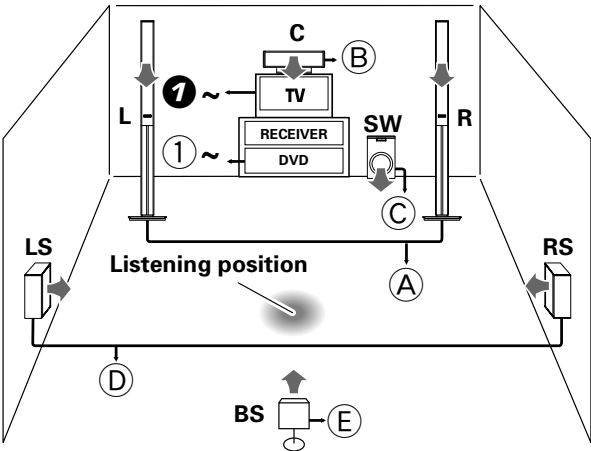
CAUTION

Make sure that the power cord plug is disconnected from the AC wall outlet before proceeding to speaker cord connections. If the conductor wires on the extremity of speaker cord are untwisted, there is a risk of short-circuiting. Be sure to twist them well before connecting the speaker cord.

Connection of speakers:

(A)	Front speakers (L,R)
(B)	Center speaker
(C)	Subwoofer
(D)	Surround speakers (L,R)
(E)	Surround back speaker

- If you want to connect two surround back speakers (LB and RB) to the **PRE OUT SURROUND BACK** jacks, see "PRE OUT jacks connections". - 16



Connection of TV monitor:

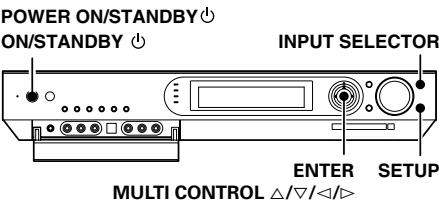
①.....	Component video connection
②= =	S video connection
③= =	Composite video connection

- For the video input connection from the DVD player and the video output connection to the TV monitor, connect any one in a pair.

Connection of DVD player:

①.....	Component video connection
②= =	S video connection
③= =	Composite video connection
④	Digital audio connection (Coaxial cord)
⑤	Analog audio connection

STEP 2 Set up the speakers



For details, see "Speaker settings" . → 20 ~ → 24

- 1 Connect the power cord to the AC wall outlet and press or .
- 2 Press , press to select "SPEAKER SETUP" and press .

If you connect KENWOOD speaker system KS-2100HT, KS-3100EX, KS-708HT, KS-308HT, KS-708HT+KS-308EX, KS-308HT+ KS-308EX, KS-908HT or KS-908EX:

Press to select the model of the connected speaker system and press .

"HTB1 6.1CH": Speaker system KS-3100EX.

"HTB1 5.1CH": Speaker system KS-2100HT.

"HTB2 6.1CH": Speaker system KS-708HT+KS-308EX or KS-308HT+ KS-308EX.

"HTB2 5.1CH": Speaker system KS-708HT or KS-308HT.

"HTB3 6.1CH": Speaker system KS-908EX.

"HTB3 5.1CH": Speaker system KS-908HT.

Model availability may differ depending on the country and sales area.

If your selection is correct, press to select "YES" and press . Now the speaker setup is complete. (Select "NO" to return to the status before setup.)

- When the speaker setting is set to "HTB1 5.1CH", "HTB2 5.1CH" or "HTB3 5.1CH", the PL IIx, DTS-ES and DOLBY EX listen modes cannot be selected.

If you use another speaker system want a setup according to it:

Press to select "CUSTOM" and press to select each of the speaker setup items.

Press to select the speaker setup item	Press to select the setting for each item
"SUBWOOFER"	"SUBWOOFER ON": A subwoofer is connected. "SUBWOOFER OFF": A subwoofer is not connected.
"FRONT"	Speaker size ? "LARGE": Relatively large-size speakers. "NORMAL": Normal-size speakers.
"CENTER", "SURROUND", "BACK SURROUND"	Speaker size ? "LARGE": Relatively large-size speakers. "NORMAL": Normal-size speakers. "OFF": No speaker is connected.
"BS/SW AMP"	"BS/SW AMP BACK SURROUND": A surround back speaker is connected to the SURR BACK/SW terminals. "BS/SW AMP SUBWOOFER": A subwoofer is connected to the SURR BACK/SW terminals. "BS/SW AMP OFF": No speaker is connected.

After completing the setup, press . If your selection is correct, press to select "YES" and press .

Now the speaker setup is complete. (Select "NO" to return to the status before setup.)

- When the speaker setting is set to "BS/SW AMP OFF", the PL IIx, DTS-ES and DOLBY EX listen modes cannot be selected.
- More detailed settings such as the volume level of each speaker and distance to each speaker are also available. → 23 → 24

STEP 3 Play a disc on the DVD player

- 1 Press to select "DVD".
- 2 Start playback of the DVD player.

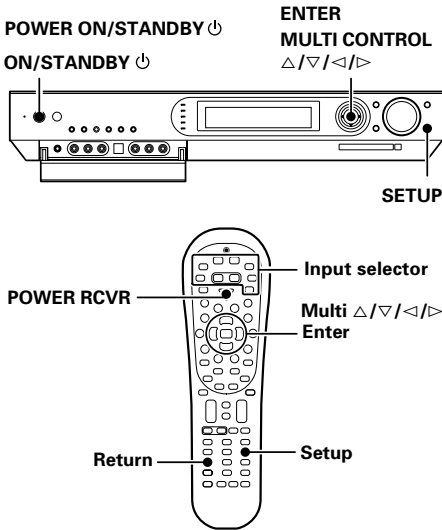
For the operation, also refer to the instruction manual for your DVD player.

- You can select various listen modes to enjoy surround playback of various kinds of video software. → 41

Preparing for playback

Speaker settings

To enable you to obtain optimum enjoyment from the receiver's listening modes, make sure to complete the speaker settings (subwoofer, front, center, surround and surround back speakers) as described below.



Preparation

Turn on the power to this receiver by pressing the **POWER ON/STANDBY** (For U.S.A. and Canada) or the **ON/STANDBY** (For Europe and Australia) key (or the **POWER RCVR** key on the remote).

Example: Setting with the "NET SERVER" input

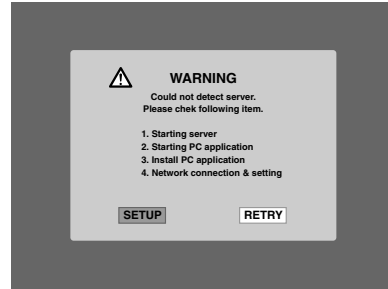
- 1 Use the **INPUT SELECTOR** key (or the **Network Server** key) to select "NET SERVER".

When performing the speaker setup by selecting the "TUNER", "DVD", "VIDEO1", "VIDEO2", "GAME" or "F.AUX" input, press the **SETUP** (or **Setup**) key and start the procedure from step 2. In these cases, the setting information is displayed on the display of this unit.

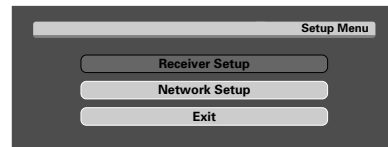
When the "NET SERVER" input is selected, the OSD function on the TV screen is activated and detection of the server starts.



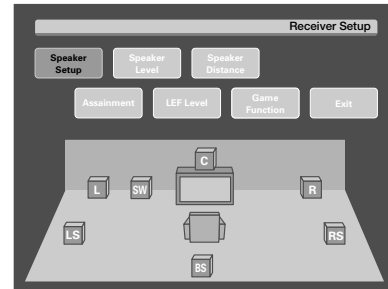
- 2 Use the **MULTI CONTROL** (or the **Multi** keys) to select "SETUP", and press the **ENTER** (or the **Enter** key).



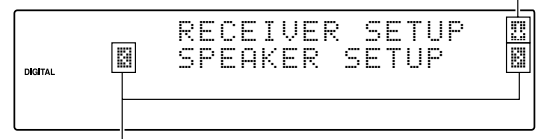
- 3 Use the **MULTI CONTROL** (or the **Multi** keys) to select "Receiver Setup", and press the **ENTER** (or the **Enter** key).



Use the **MULTI CONTROL** (or the **Multi** keys) for the following displays.



Indicates the direction of movement in the hierarchy when the **ENTER** (or the **Enter** key) is pressed.



Indicates the direction of **MULTI CONTROL** (or **Multi** key) to be pressed for selecting the setting.

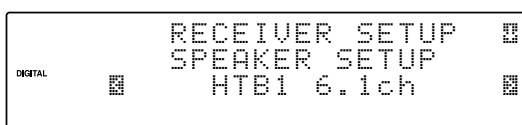
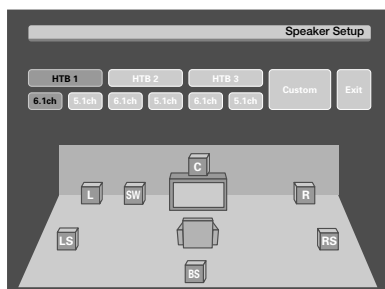
- ① "Speaker Setup": Select a speaker system. → [21]
- ② "Speaker Level": Adjust the speaker volume level. → [23]
- ③ "Speaker Distance": Input the distance to the speakers. → [23]
- ④ "Assignment": Re-assignment of rear panel jacks → [25]
- ⑤ "LFE Level": Adjust the LFE LEVEL (Low Frequency Effects level) → [24]
- ⑥ "Game Function": Set up the GAME jacks on the front panel. → [24]
- ⑦ "Exit": Select "Exit" and press the **ENTER** (or the **Enter** key) to return to the previous display.

- While the main setup screen is displayed, the setup mode can be canceled by pressing the **SETUP** key (or the **Setup** key).

Continued to next page

4 Select the setup method. Speaker Setup

- ① Select "Speaker Setup" and press the ENTER key (or the Enter key) to select the speaker setup method.
- ② Use the MULTI CONTROL \triangle/∇ (or the Multi \triangle/∇ keys) for the following displays.



- ① "HTB1 6.1CH": Select "HTB1 6.1CH" if you use speaker system KS-3100EX. *
- ② "HTB1 5.1CH": Select "HTB1 5.1CH" if you use speaker system KS-2100HT. *
- ③ "HTB2 6.1CH": Select "HTB2 6.1CH" if you use speaker system KS-708HT+KS-308EX or KS-308HT+KS-308EX. *
- ④ "HTB2 5.1CH": Select "HTB2 5.1CH" if you use speaker system KS-708HT or KS-308HT. *
- ⑤ "HTB3 6.1CH": Select "HTB3 6.1CH" if you use speaker system KS-908EX. *
- ⑥ "HTB3 5.1CH": Select "HTB3 5.1CH" if you use speaker system KS-908HT. *
- ⑦ "Custom": Select to set up the speakers according to the speaker system in use. (Speaker setup is required every time after the speaker system is changed.)
- ⑧ "Exit": Select "Exit" and press the ENTER (or the Enter key) to return to the previous display.

* Model availability may differ depending on the country and sales area.

- When the 5.1 channel speaker system configuration is used or the speaker setting is set to "BS/SW Amp Off", the PL IIX, DTS-ES and DOLBY EX listen modes cannot be selected.

If you selected "HTB16.1CH", "HTB15.1CH", "HTB26.1CH", "HTB25.1CH", "HTB36.1CH" or "HTB35.1CH" in the above:

Press the ENTER (or the Enter key), then press the MULTI CONTROL \triangle/∇ (or the Multi \triangle/∇ keys) to select "Yes", and press the ENTER (or the Enter key) again to establish the setup.

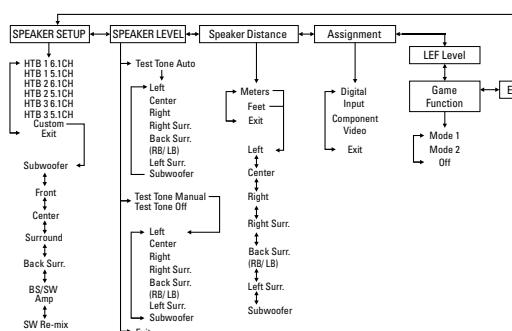
- Select "No" to return to the status before setup.
- When you use a KENWOOD speaker system and select "HTB1 6.1CH", "HTB1 5.1CH", "HTB2 6.1CH", "HTB2 5.1CH", "HTB3 6.1CH" or "HTB3 5.1CH" set the speaker setup, the audio will be corrected automatically according to the speaker characteristics.

If you selected "Custom" in the above:

Press the ENTER (or the Enter key) to proceed to detailed setups.

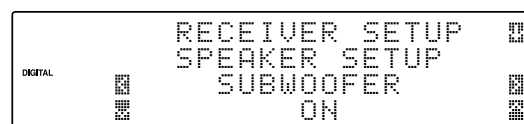
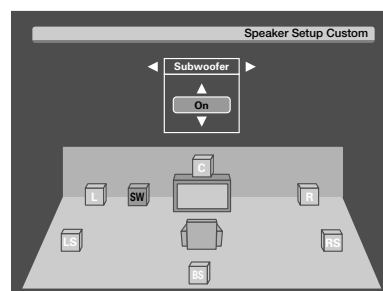
After this, continue the procedure from step 5.

The flow of the SETUP is as follows;



5 Select a speaker system.

- ① Use the MULTI CONTROL \triangle/∇ (or the Multi \triangle/∇ keys) to select the appropriate subwoofer setting.



- ① "Subwoofer On":
When a subwoofer is connected.
 - ② "Subwoofer Off":
When no subwoofer is connected.
- The initial setting is "Subwoofer On".
 - When "Subwoofer Off" is selected and the selection is established by pressing the MULTI CONTROL \triangleright (or the Multi \triangleright key) in step ② below, the front speakers are set automatically to "Front Large" and the procedure jumps to step ③.
- ② Use the MULTI CONTROL \triangleright (or the Multi \triangleright key) to accept the setting.
 - ③ Use the MULTI CONTROL \triangle/∇ (or the Multi \triangle/∇ keys) to select the appropriate front speakers setting.

- ① "Front Large":
Large front speakers are connected to the receiver.

Continued to next page

② "Front Normal":

Average size front speakers are connected to the receiver.

- When the subwoofer setting is "Subwoofer On", front speakers setting is "Front Large" and a stereo source is played, the low frequencies may be reproduced through the front speakers and no audio output from the subwoofer in certain listen modes. In this case, set the subwoofer re-mix setting in step ⑫ to "SW Re-mix On" to output the low frequencies from the subwoofer.

④ Use the MULTI CONTROL ▷ (or the Multi ▷ key) to accept the setting.

⑤ Use the MULTI CONTROL △ / ▽ (or the Multi △ / ▽ keys) to select the appropriate center speaker setting.

① "Center Large": *

A large center speaker is connected to the receiver.

② "Center Normal":

An average size center speaker is connected to the receiver.

③ "Center Off":

When no center speaker is connected.

- * "Center Large" cannot be selected when the front speakers have been set to "Front Normal".

⑥ Use the MULTI CONTROL ▷ (or the Multi ▷ key) to accept the setting.

⑦ Use the MULTI CONTROL △ / ▽ (or the Multi △ / ▽ keys) to select the appropriate surround speaker setting.

① "Surround Large":

Large surround speakers are connected to the receiver.

② "Surround Normal":

Average size surround speakers are connected to the receiver.

③ "Surround Off":

When no surround speakers are connected.

- When "Surround Off" is selected and the selection is established by pressing the MULTI CONTROL ▷ in step ⑤ below, the procedure jumps to step ⑫. However, if the subwoofer setting is "Subwoofer Off", the procedure jumps to step ⑭ so that you can complete the speaker setup and proceed to the speaker volume level adjustment in step ⑮.

⑧ Use the MULTI CONTROL ▷ (or Multi ▷ key) to accept the setting.

⑨ Use the MULTI CONTROL △ / ▽ (or the Multi △ / ▽ keys) to select appropriate surround back speaker setting.

① "Back Surr. Large": *

Large surround back speaker is connected to the receiver.

② "Back Surr. Normal":

Average size surround back speaker is connected to the receiver.

③ "Back Surr. Off":

When no surround back speakers is connected.

- * "Back Surr. Large" cannot be selected when the surround speaker has been set to "Surround Normal" or "Surround Off".

⑩ Use the MULTI CONTROL ▷ (or the Multi ▷ key) to accept the setting.

⑪ Use the MULTI CONTROL △ / ▽ (or the Multi △ / ▽ keys) to select the appropriate BS/SW amp setting.

① "BS/SW Amp Back Surr.":


Select this setting when a surround back speaker is connected to the SURR BACK/SW terminals. In this case, the subwoofer signal will be output from the PRE OUT SUBWOOFER jack.

② "BS/SW Amp Subwoofer":

Select when the subwoofer speaker is connected to the SURR BACK/SW terminals. In this case, the surround back signals will be output from the PRE OUT SURROUND BACK jacks.

③ "BS/SW Amp Off":

Select when no speaker is connected to the SURR BACK/SW terminals. In this case, the subwoofer signal will be output from the PRE OUT SUBWOOFER jack and the surround back signals will be output from the PRE OUT SURROUND BACK jacks.

- If "BS/SW Amp Back Surr." is selected, only one surround back speaker can be connected to the receiver.
- If "BS/SW Amp Subwoofer" or "BS/SW Amp Off" is selected, two surround back speakers can be connected to the PRE OUT SURROUND BACK jacks through an external power amplifier. 

⑫ Use the MULTI CONTROL ▷ (or the Multi ▷ key) to accept the setting.

⑬ Use the MULTI CONTROL △ / ▽ (or the Multi △ / ▽ keys) to select the appropriate subwoofer re-mix setting.

If "SW Re-mix On" is selected as the subwoofer re-mix setting, the low frequencies are enhanced by adding the low frequencies of other channels to the subwoofer channel or adding the low frequencies of the subwoofer to other channels depending on the speaker setup.

① "SW Re-mix On":

Subwoofer re-mix setting mode to the receiver is ON.

② "SW Re-mix Off":

Subwoofer re-mix setting mode to the receiver is OFF.

- The initial setting is "SW Re-mix On".
- The subwoofer re-mix setting is possible only when the subwoofer setting is "Subwoofer On" and the front speaker setting is "Front Large".

⑭ Press the ENTER (or the Enter key). If your selection is correct, press the MULTI CONTROL △ / ▽ (or the Multi △ / ▽ key) to select "Yes".

Press the ENTER (or the Enter key) again to return to the main setup displays.

- Select "No" and press the ENTER (or the Enter key) to return to the status before setup.

Continued to next page

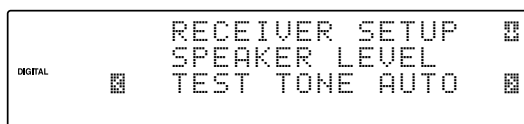
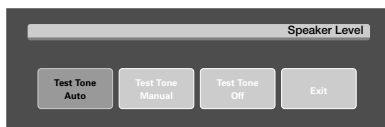
6 Adjust the speaker volume level. Speaker Level

From your usual listening position, adjust the volume levels. The volume levels from each speaker should be the same.

- In this step 6, only the speaker channels that have been set and require the volume level adjustment are displayed.

1 Use the **MULTI CONTROL** $\triangleleft/\triangleright$ (or the **Multi** $\triangleleft/\triangleright$ keys) to select **"Speaker Level"** on setup displays, and press the **ENTER** (or the **Enter** key).

2 Use the **MULTI CONTROL** $\triangleleft/\triangleright$ (or the **Multi** $\triangleleft/\triangleright$ keys) to select **"Test Tone Auto"**, **"Test Tone Manual"** or **"Test Tone Off"**.



1 **"Test Tone Auto"**: Select this setting to adjust the speaker volume levels using the test tone. The test tone will be output from every speaker channel in automatic sequence.

2 **"Test Tone Manual"**: Select the speaker channel to output the test tone using the **MULTI CONTROL** $\triangleleft/\triangleright$ (or the **Multi** $\triangleleft/\triangleright$ key).

3 **"Test Tone Off"**: Select to adjust the speaker volume levels using the current output signals. The speaker channel to output the signal can be selected using the **MULTI CONTROL** $\triangleleft/\triangleright$ (or the **Multi** $\triangleleft/\triangleright$ key).

4 **"Exit"**: Select **"Exit"** and press the **ENTER** (or the **Enter** key) to return to the previous display.

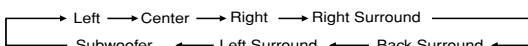
- Press the **SETUP** (or **Setup**) key to cancel the SETUP mode in the middle.

When **"Test Tone Auto"** or **"Test Tone Manual"** is selected and the **ENTER** (or the **Enter** key) is pressed again, the test tone output will start.

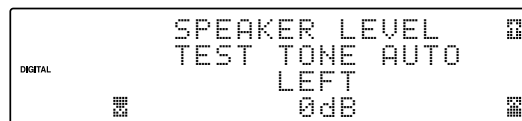
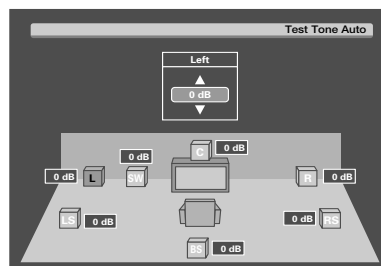
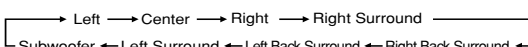
Use the **MULTI CONTROL** $\triangleleft/\triangleright$ (or the **Multi** $\triangleleft/\triangleright$ keys) to adjust the volume level of the test tone output from the speaker channel to be adjusted.

For **"Test Tone Auto"** selection, the first test tone is heard from the front left speaker for 2 seconds. The next test tone is heard from the speakers in the following sequence for 2 seconds each.

When the **"BS/SW Amp Back Surr."** has been selected:

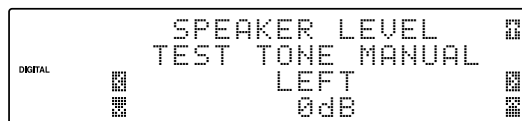
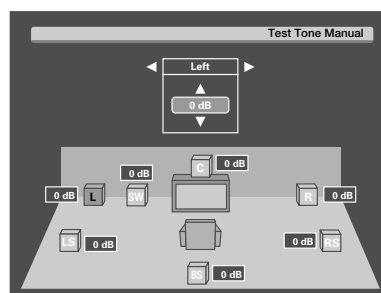


When the **"BS/SW Amp Subwoofer"** or **"BS/SW Amp Off"** has been selected:



- If you change the volume level settings for the speakers while listening to music, the settings referred to on this page are also changed. → 43
- When a speaker setup is set to off the volume level for the corresponding speakers is reset to 0 dB.

When **"Test Tone Manual"** or **"Test Tone Off"** is selected, press the **MULTI CONTROL** $\triangleleft/\triangleright$ (or the **Multi** $\triangleleft/\triangleright$ key) to select the speaker channel and then press the **MULTI CONTROL** $\triangleleft/\triangleright$ (or the **Multi** $\triangleleft/\triangleright$ key) to adjust the speaker volume level.



5 Press the **ENTER** (or the **Enter** key) again to return to the main setup displays.

- The test tone is turned off and return to the main setup displays.

7 Input the distance to the speakers. Speaker Distance

This setting allows the signals output from different speakers to reach the listening position simultaneously.

- In this step 7, only the speaker channels that have been set and require the volume level adjustment are displayed.

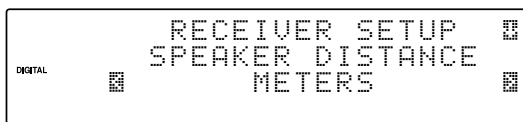
Measure the distance from the listening position to each of the speakers.

Not down the distance to each of the speakers.

- Distance to Front speaker (L) : ____ feet (meters)
- Distance to Center speaker (C) : ____ feet (meters)
- Distance to Front speaker (R) : ____ feet (meters)
- Distance to Surround speaker (RS) : ____ feet (meters)
- Distance to Surround back speaker (RB) : ____ feet (meters)
- Distance to Surround back speaker (LB) : ____ feet (meters)
- Distance to Surround speaker (LS) : ____ feet (meters)
- Distance to Subwoofer (SW) : ____ feet (meters)

Continued to next page

- ❶ Use the MULTI CONTROL $\triangleleft/\triangleright$ (or the Multi $\triangleleft/\triangleright$ keys) to select "Speaker Distance" on setup displays, and press the ENTER (or the Enter key).
- ❷ Use the MULTI CONTROL $\triangleleft/\triangleright$ (or the Multi $\triangleleft/\triangleright$ key) to select the unit and press the ENTER (or the Enter key).

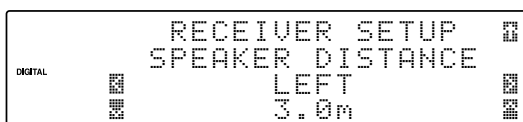
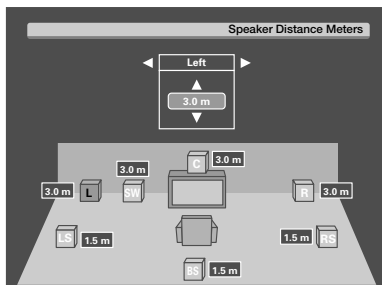


- ❶ "Meters"
- ❷ "Feet"
- ❸ "Exit": Select "Exit" and press the ENTER (or the Enter key) to return to the previous display.

- Press the **SETUP** (or **Setup**) key to cancel the SETUP mode in the middle.

- ❸ Use the MULTI CONTROL $\triangleleft/\triangleright$ (or the Multi $\triangleleft/\triangleright$ keys) to select the speakers and the MULTI CONTROL \triangle/∇ (or the Multi \triangle/∇ keys) to adjust the distance to the front speakers.

- The speakers you have selected should appear on the display. Confirm that all the speakers have been correctly selected.



- The allowable setting range is 1 to 30 feet (0.3 to 9.0 m), adjustable in 1 foot (0.3 m) increments.

- ❹ Repeat steps ❸ to input the distance for each of the speakers.

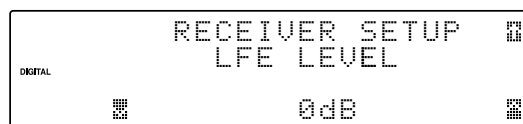
- ❺ Press the ENTER (or the Enter key) again to return to the main setup displays.

- ❸ Adjust the LFE LEVEL (Low Frequency Effects level). LFE Level

Adjust the level of the low-frequency fields effect (LFE) signal, which is the signal used exclusively for giving the field effect of bass tone, in the Dolby Digital or DTS signal.

- ❶ Use the MULTI CONTROL $\triangleleft/\triangleright$ (or the Multi $\triangleleft/\triangleright$ keys) to select "LFE Level" on setup displays, and press the ENTER (or the Enter key).

- ❷ Use the MULTI CONTROL \triangle/∇ (or the Multi \triangle/∇ keys) to adjust the LFE LEVEL.



- The LFE LEVEL is adjusted from 0dB to -10dB in 1dB step decrements.

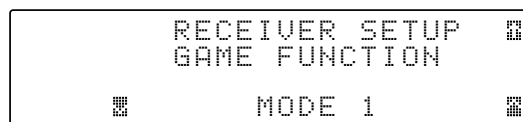
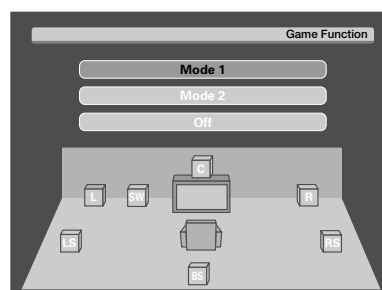
- ❹ Press the ENTER (or the Enter key) again to return to the main setup displays.

- ❹ Set up the GAME jacks on the front panel. Game Function

Perform the setup for convenience of playing a video game using the receiver.

- ❶ Use the MULTI CONTROL $\triangleleft/\triangleright$ (or Multi $\triangleleft/\triangleright$ keys) to select "GameFunction" on setup displays, and press the ENTER (or the Enter key).

- ❷ Press the MULTI CONTROL \triangle/∇ (or the Multi \triangle/∇ key) to select the game mode.



- ❶ "Mode 1":

When the connected game machine is turned ON, the input selector is switched automatically to "GAME". In addition, the ACTIVE EQ function is switched to "ACTIVE EQ GAME" and the listen mode is switched to the appropriate mode for games.

- ❷ "Mode 2":

When the connected game machine is turned ON, the input selector is switched automatically to "GAME".

- ❸ "OFF":

The game mode is switched OFF.

- Press the **SETUP** (or **Setup**) key to cancel the SETUP mode in the middle.

- The game mode is not activated if no video signal is input to the VIDEO jack in the GAME jack section.

- The game mode is not activated when the DUAL SOURCE function is switched ON. → [31]

- ❹ Press the ENTER (or the Enter key) again to return to the main setup displays.

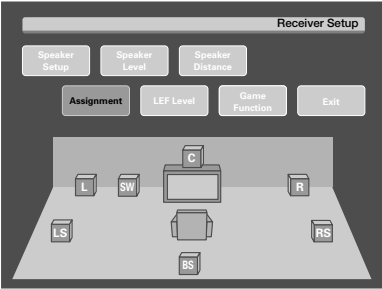
Re-assignment of rear panel jacks

Assignment

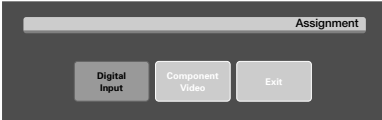
The assignment of the input selector positions to the digital audio and component video input jacks can be changed as desired.

Perform the operations in "Preparation" in "Speaker settings" and its procedure steps 1 to 3. → 20

- 1 Use the MULTI CONTROL </> (or the Multi </> keys) to select "Assignment" and press the ENTER key (or the Enter key).

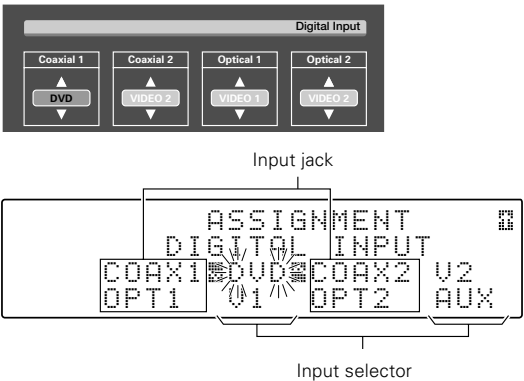


- 2 Use the MULTI CONTROL </> (or the Multi </> keys) to select "Digital Input" or "Component Video", and press the ENTER (or the Enter key).

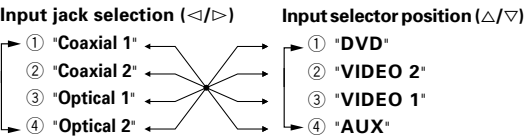


- 1 "Digital Input":
Select to change the assignment of the digital audio input jacks of the receiver.
- 2 "Component Video":
Select to change the assignment of the component video input jacks of the receiver.
- 3 "Exit": Select "Exit" and press the ENTER (or the Enter key) to return to the previous display.
- Press the **SETUP** (or **Setup**) key to cancel the SETUP mode in the middle.

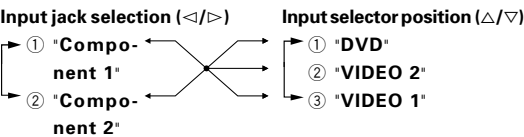
- 3 Use the MULTI CONTROL </> (or the Multi </> key) to select the input jack name and then press the MULTI CONTROL Δ/▽ (or the Multi Δ/▽ key) to select the input selector position.



When the "Digital Input" has been selected :



When the "Component Video" has been selected :



Use the following table for your memorandum.

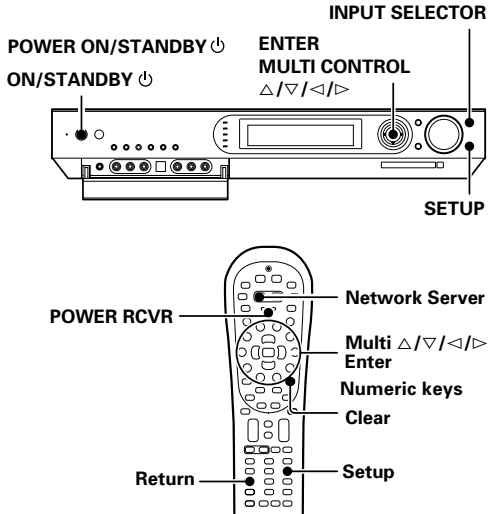
Jack name	Assigned input selector
COAX1 (DVD)	
COAX2 (VIDEO 2)	
OPT1 (VIDEO 1)	
OPT2 (AUX)	
COMPONENT VIDEO INPUT IN1 (DVD)	
COMPONENT VIDEO INPUT IN2 (VIDEO 2)	

- It is not permitted to assign two input selector positions for one input jack.

- 4 Repeat step 3 until you have assigned the desired jacks to the desired input selector positions.
- 5 Press the ENTER (or the Enter key) again to return to the main setup displays.

Network settings

This unit can be connected to a PC through a LAN circuit.
It is required to set up the network before connecting this unit to the PC.



Preparation

Turn on the power to this receiver by pressing the **POWER ON/STANDBY** (For U.S.A. and Canada) or the **ON/STANDBY** (For Europe and Australia) key (or the **POWER RCVR** key on the remote).

1 Use the **INPUT SELECTOR** key (or the **Network Server** key) to select "NET SERVER".

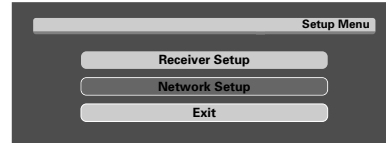
When the "NET SERVER" input is selected, the OSD function on the TV screen is activated and detection of the server starts.



2 Use the **MULTI CONTROL** (directional keys) (or the **Multi** (directional keys) to select "SETUP", and press the **ENTER** (or the **Enter** key).

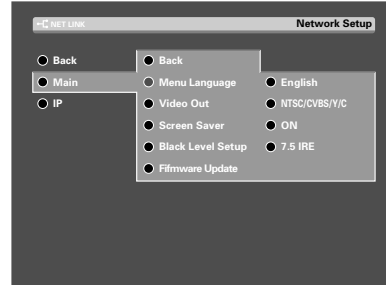


3 Use the **MULTI CONTROL** (directional keys) (or the **Multi** (directional keys) to select "Network Setup", and press the **ENTER** (or the **Enter** key).



4 Use the **MULTI CONTROL** (directional keys) (or the **Multi** (directional keys) to select the setting item, and press the **ENTER** (or the **Enter** key).

When the "Main" has been selected :



① "Main" Setting: -[27]

This includes the setting of the language of the OSD menu, setting of the video format used when this unit outputs the video or photo data in PC that has been input through the network, setting of the screen saver, setting of the black level, and updating of the firmware.

② "IP" Setting: -[29]

This consists of the setting of the IP address.

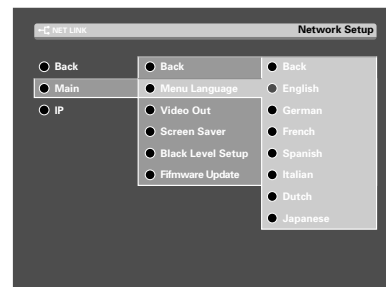
③ "Back": Select "Back" and press the **ENTER** (or the **Enter** key) to return to the previous display. (The same operation is also available by pressing the **Return** key or **Multi** (directional keys) key)

- While the main setup screen is displayed, the setup mode can be canceled by pressing the **SETUP** key (or the **Setup** key).

5 Use the **MULTI CONTROL** (directional keys) (or the **Multi** (directional keys) to select an option or input the desired numeric or alphabetic characters using the numeric keys, and then press the **ENTER** (or the **Enter** key).

- If you made a mistake, press the **Clear** key and input the correct character.

When the "Menu Language" has been selected :



6 Press the **ENTER** (or the **Enter** key) again to return to the main setup displays.

7 Turn off the power to this receiver by pressing the **POWER ON/STANDBY** (For U.S.A. and Canada) or the **ON/STANDBY** (For Europe and Australia) key (or the **POWER RCVR** key).

“Main” Setting

The settings available in this menu includes the setting of the language of the OSD menu, setting of the video format used when this unit outputs the video or photo data in PC that has been input through the network, setting of the screen saver, setting of the black level, and updating of the firmware.

The default setups are as follows.

“Menu Language” Setting: “English”

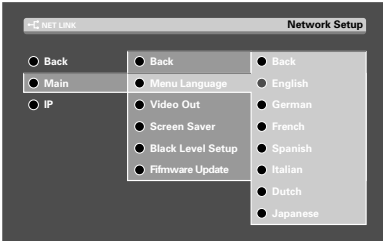
“Video Out” Setting:
“NTSC CVBS&Y/C” (For U.S.A. and Canada)
“PAL CVBS&Y/C” (For Europe and Australia)

“Screen Saver” Setting: “ON”

“Black Level Setup” Setting: \rightarrow 28
“7.5 IRE” (For U.S.A. and Canada)
“0 IRE” (For Europe and Australia)

“Menu Language” Setting:

This setting item is used to set the language used to display the setup menu and OSD on the TV screen.



- ① “English”

② “German”

③ “French”

④ “Spanish”

⑤ “Italian”

⑥ “Dutch”

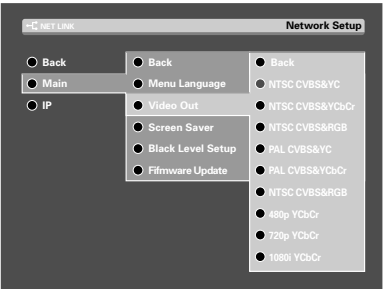
⑦ “Japanese”

“Video Out” Setting:

This setting item is used to select the format of the video signal output at the VIDEO OUT jacks.
The video format should be selected according to the video format of the connected TV.

Press the Video Out key to switch the video format temporarily. \rightarrow 58

As this is merely a temporary setting, the video format should be re-set in the network setting operation.



	Video Format	Composite Output	S Video Output	Component output
①	NTSC	CVBS	Y/C	—
②	NTSC	CVBS	—	Y Cb Cr
③	PAL	CVBS	Y/C	—
④	PAL	CVBS	—	Y Cb Cr
⑤	480p (NTSC)	—	—	Y Cb Cr
⑥	576p (PAL)	—	—	Y Cb Cr
⑦	720p	—	—	Y Cb Cr
⑧	1080i	—	—	Y Cb Cr

- The initial setting is “NTSC CVBS&Y/C” (For U.S.A. and Canada).
- The initial setting is “PAL CVBS&Y/C” (For Europe and Australia).

Video Formats

There are roughly two kinds of video formats that are used to display TV pictures and video data (NTSC and PAL). These formats are used according to the countries and regions.

TV formats in major countries

“NTSC”: Japan, Taiwan, Korea, USA, Canada, Mexico, Philippines, Chile, etc.
“PAL”: China, U.K., Germany, Australia, New Zealand, Kuwait, Singapore, etc.

Interlaced scanning and progressive scanning

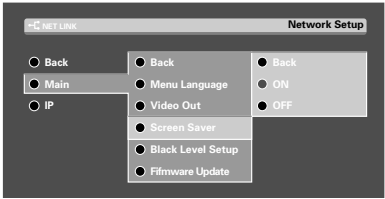
These are the two scanning methods for displaying the TV picture. Interlaced scanning displays a TV picture by drawing every other scanning line from the top of the screen, and progressive scanning draws all scanning lines from the top of the screen.
Progressive scanning offers a TV picture with fewer flickers than interlaced scanning.
The figure used in the video format name indicates the number of effective scanning lines.

Example:

“720p”: Progressive scanning with 720 effective scanning lines
“1080i”: Interlaced scanning with 1080 effective scanning lines

“Screen Saver” Setting:

This setting item is used to set the screen saver function.

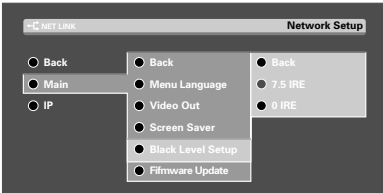


- ① “ON”: The screen saver starts when you leave this unit in stop mode for about 5 minutes.

② “OFF”

"Black Level Setup" Setting:

This setting item is used to set the black level.



- ① **"7.5 IRE"**: Standard black level for the USA and Canada.
- ② **"0 IRE"**: Standard black level for Europe and Australia.

"Firmware Update":

Refer to page 83 for Firmware Update.

"IP" Setting

The default setups are as follows.

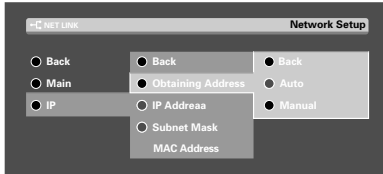
"Obtaining Address" Setting: "Auto"

"IP Address" Setting: "192.168.1.1"

"Subnet Mask" Setting: "255.255.255.0"

Automatic setting:

To set the IP address automatically, set item "Obtaining Address" to "Auto".

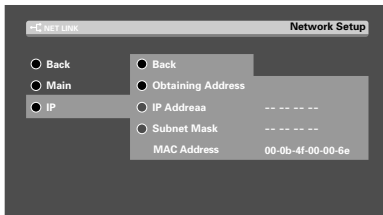


① "Auto": Automatic setting

② "Manual": Manual setting

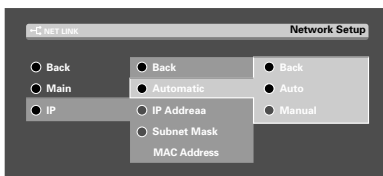
- The initial setting is "Auto".

Usually, the IP address is set automatically when the network is connected. (If the network connection fails, it is required to set the IP address manually.)



Manual setting:

To set the IP address manually, set item "Obtaining Address" to "Manual".



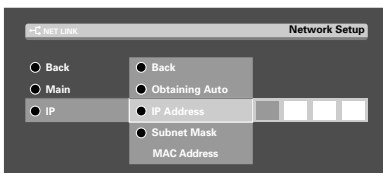
① "Auto": Automatic setting

② "Manual": Manual setting

- The initial setting is "Auto".

"IP Address" Setting:

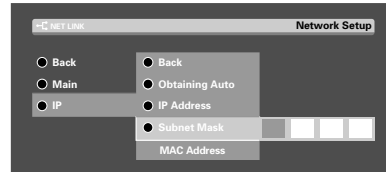
Check the IP addresses of all of the devices connected to the network and set an unused IP address so that it does not overlap with any other. For the checking of IP addresses, see "How to check the IP address of the PC".



- It is recommended to set an IP address between 192.168.1.1 and 192.168.255.255.

"Subnet Mask" Setting:

Enter the subnet mask, which is issued by the provider, using the numeric keys. (It is usually 255.255.255.0.)



- It is recommended to set the subnet mask of 255.255.255.0.

"MAC Address" display:

The MAC (Media Access Control) Address assigned to this unit can be displayed. (The MAC address cannot be changed.)

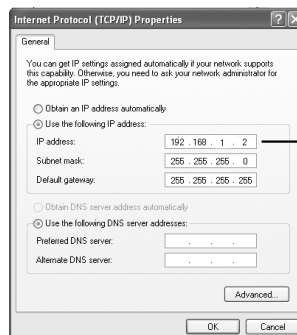
How to check the IP address of the PC:

The operation of the PC is variable depending on the OS. Please refer to the instruction manual for your PC for details. The following description takes Windows XP as example.

To check the IP address of the PC, it is required to log on with the Administrator's authority.

Operation with Windows XP:

- ① Select [Start] → [Control Panel].
- ② Select [Network and Internet Connection] → [Network Connection], click the mouse right button on [Local Area Connection] and select the properties.
- ③ Click on [Internet Protocol (TCP/IP)], click on the [Properties] button.



Check IP address here.

- When setting the IP address of this unit manually, set it so that it is not identical to the IP address checked here.

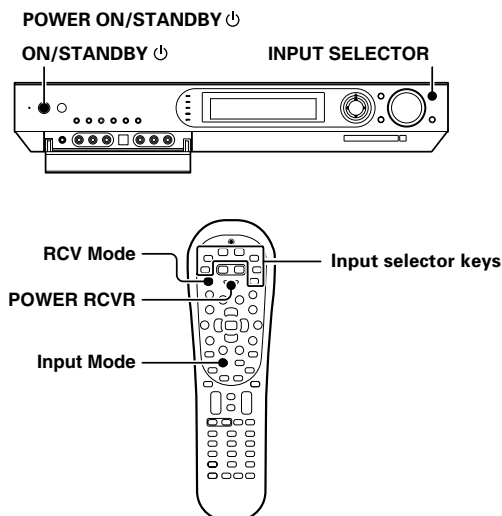
Example:

PC: 192.168.1.2

VRS-N8100: 192.168.1.1

Normal playback

Some preparatory steps are needed before starting playback.



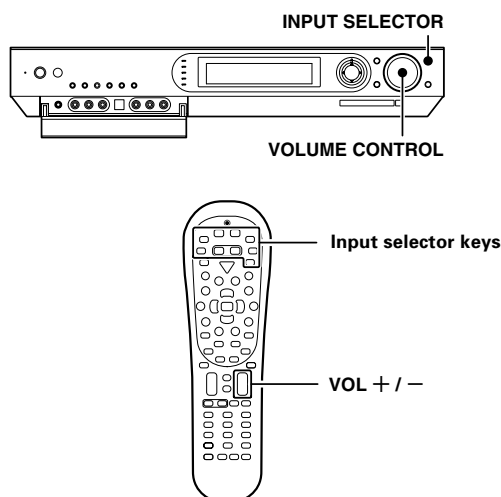
Turning on the receiver

- 1 Turn on the power to the related components.
- 2 Turn on the power to this receiver by pressing the **POWER ON/STANDBY** button or the **ON/STANDBY** button key (or the **POWER RCVR** key).
 - After turning off a power supply, the **POWER ON/STANDBY** button or the **ON/STANDBY** button key is not effective for 3 seconds.

Selecting the input mode

If you have selected a component connected to the **COAX 1 (DVD)**, **COAX 2 (VIDEO 1)**, **OPT 1 (VIDEO 2)**, **OPT 2 (AUX)** or **DIGITAL IN (OPTICAL)** jacks, make sure that the input mode setting is correct for the type of audio signal to be used. → 9

Listening to a source component



- 1 Press the **INPUT SELECTOR** key (or the **Input selector keys/ DVD, VID1, VID2, AUX, F.AUX, Game, TUNER, Network Server or Memory Card**) to select the source.

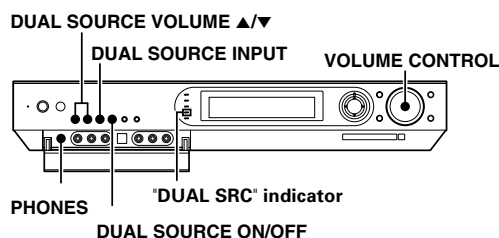
- 1 "TUNER"
- 2 "DVD"
- 3 "VIDEO1"
- 4 "VIDEO2"
- 5 "GAME"
- 6 "F.AUX"
- 7 "AUX"
- 8 "NET SERVER"
- 9 "MEMORY CARD"

- When the "NET SERVER" or "MEMORY CARD" input is selected, the OSD function on the TV screen is activated and detection of the server starts. → 54 - 59

- 2 Start playback from the selected source.

- 3 Use the **VOLUME CONTROL** knob (or the **VOL +/-** keys) to adjust the volume.

Listening with headphones



- 1 Connect headphones to the PHONES jack.

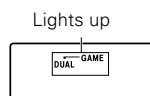


- 2 Use the VOLUME CONTROL knob (or the VOL +/- keys) to adjust the volume.

Playing difference sources through speakers and headphones (DUAL SOURCE function)

While you enjoy audio listening through the speakers, another person can enjoy another source (audio + video) through headphones by connecting the source to the **GAME** or **FRONT AUX** jacks.

- 1 Connect headphones to the PHONES jack.
- 2 Press the DUAL SOURCE ON/OFF key to switch the DUAL SOURCE function ON.
 - When the DUAL SOURCE function is ON, the video and headphone outputs reproduce only the second input source of the DUAL SOURCE function. At this time, the audio from the main source, which is selected with the input selector, continues to be monitored through the speakers. Switching the DUAL SOURCE function OFF restores the main input source signals to the video and headphone outputs.



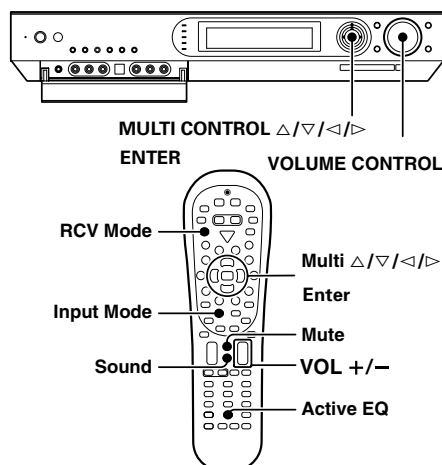
- 3 Press the DUAL SOURCE INPUT key to select the second input source for the DUAL SOURCE function.

- 1 "DUAL SOURCE GAME" :
The "GAME" input is selected as the second input source for the DUAL SOURCE function.
- 2 "DUAL SOURCE F. AUX" :
The "F. AUX" input is selected as the second input source for the DUAL SOURCE function.

- 4 Press the DUAL SOURCE VOLUME ▲ / ▼ to adjust the headphone listening volume.

- When the DUAL SOURCE function is ON, the input mode for the second input source is fixed at "ANALOG".
The listen mode cannot be changed. → [9] → [41]

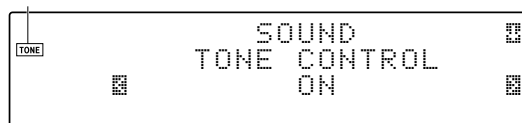
Adjusting the sound



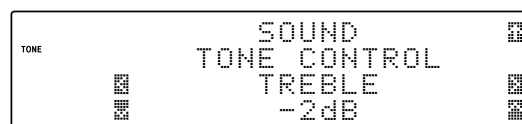
Adjusting the TONE (PCM stereo and analog stereo mode only)

- 1 Press the RCV Mode key on the remote control unit to set it to the receiver control mode.
- 2 Press the Sound key.
- 3 Use the MULTI CONTROL ◀ / ▶ (or the Multi ◀ / ▶ keys) to select "TONE CONTROL", and press the ENTER (or the Enter key).
- 4 Use the MULTI CONTROL ◀ / ▶ (or the Multi ◀ / ▶ keys) to select "ON", and press the ENTER (or the Enter key).

Lights up



- 5 Use the MULTI CONTROL ◀ / ▶ (or the Multi ◀ / ▶ keys) to select "BASS" or "TREBLE".
 - 1 "BASS" :
Select this to adjust the low frequency range.
 - 2 "TREBLE" :
Select this to adjust the high frequency range.
- 6 Use the MULTI CONTROL ▲ / ▼ (or the Multi ▲ / ▼ keys) to adjust the sound quality.



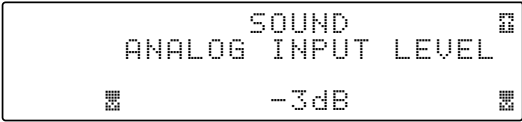
- 7 Repeat steps 5 and 6 as required.
 - The adjustment mode is displayed for approximately 20 seconds.
 - The bass and treble levels are adjustable from -10dB to +10dB in 2 step increments.
- 8 Press the Sound key again to return to the input indication.

Input level adjustment (analog sources only)

If the input level of an analog source signal is too high, the "CLIP" indicator will lights up to indicate the source signal. Adjust the input level.



- 1 Press the RCV Mode key on the remote control unit to set it to the receiver control mode.
- 2 Press the Sound key.
- 3 Use the MULTI CONTROL </> (or the Multi </> keys) to select "ANALOG INPUT LEVEL", and press the ENTER (or the Enter key).
- 4 Use the MULTI CONTROL Δ / ▽ (or the Multi Δ / ▽ keys) to adjust the input level.



- The adjustment mode is displayed for approximately 20 seconds.
 - The input level may be adjusted to any one of three settings: 0dB, -3dB, and -6dB. (The initial setting is 0dB.)
 - You can store a separate input level for each input selector.
- 5 Press the Sound key again to return to the input indication.

ACTIVE EQ mode

You can enjoy a more impressive sound effect when ACTIVE EQ is turned ON.

Press the **Active EQ** key for the following selections:

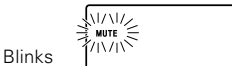
- 1 "ACTIVE EQ MUSIC" : (The "ACTIVE EQ" indicator lights up) Effective when listening to music.
- 2 "ACTIVE EQ CINEMA" : (The "ACTIVE EQ" indicator lights up) Effective when watching a movie.
- 3 "ACTIVE EQ GAME" : (The "ACTIVE EQ" indicator lights up) Effective when playing a game.
- 4 "ACTIVE EQ OFF" : (The "ACTIVE EQ" indicator goes off) The ACTIVE EQ function is turned OFF.

- The ACTIVE EQ function is not available in when the REC MODE or virtual mode is ON.

Muting the sound

The **Mute** key lets you mute the sound of the speakers or headphones.

Press the Mute key.



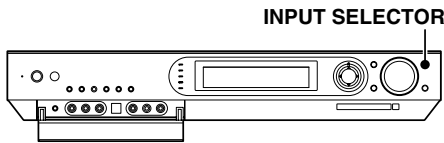
To cancel

Press the Mute key again so that the "MUTE" indicator goes off.

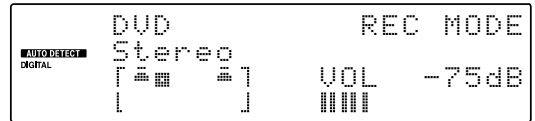
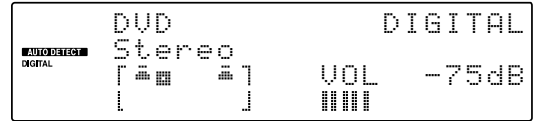
- MUTE ON can also be deactivated by turning the **VOLUME CONTROL** knob or pressing the **VOL +/-** keys.

Recording

Analog sources



- ❶ Use the INPUT SELECTOR key (or the input selector key) to select the source (other than "VIDEO 1") you want to record.
- ❷ Put the component connected to the VIDEO 1 jacks to the record-pause mode.
- ❸ Start playback, then start recording.
 - Recording may not be normal for some video software. This is due to the copy guard condition.



The display switches automatically.

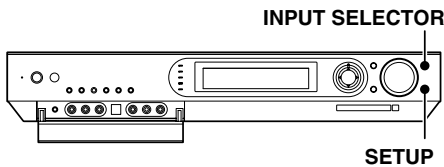
- ❹ Start playback, then start recording.

Digital sources

Switch on the REC MODE to record a digital input source. When the digital mode changes during recording in the REC MODE, the audio signal may be interrupted momentarily.

Recording music in REC mode

When a multi-channel source such as the Dolby Digital or DTS input signal is recorded in REC mode, the multi channel signal in the current surround mode can be recorded down-mixed to 2-channel.



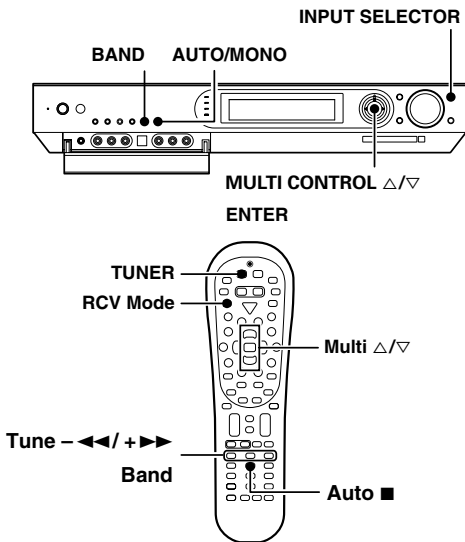
- ❶ Use the INPUT SELECTOR key (or the Input Selector keys) to select the source ("DVD", "VIDEO 2", "AUX", "GAME" or "NET SERVER") you want to record.
- ❷ Put the component connected to the VIDEO 1 jacks to the record-pause mode.
- ❸ Press and hold the SETUP key on the main unit for more than 2 seconds to select the "REC MODE".
 - ➔ ❶ REC mode off
 - ➔ ❷ "REC MODE": REC mode on

Multi-channel digital signals (DTS or Dolby Digital) are down-mixed to 2-channel before being output from the analog recording (REC OUT) jacks.

Listening to radio broadcasts

The receiver can store up to 40 stations in the memory and recall them by one-touch operation. Radio stations can be classified into RDS (Radio Data System) stations and other stations. To listen to or store RDS stations in the preset memory see "Using RDS (Radio Data System) (For Europe)". → 36

Tuning (non-RDS) radio stations



- 1 Use the **INPUT SELECTOR** key (or the **TUNER** key) to select the tuner.
- 2 Use the **BAND** key (or the **Band** key) to select the desired broadcast band.

Each press switches the band.



- 3 Use the **AUTO/MONO** key (or the **Auto** ■ key) to select the desired tuning method.


Each press switches the tuning method to either auto or manual tuning.

- ① Auto tuning:
The "AUTO" indicator lights up
- ② Manual tuning:
The "AUTO" indicator goes off

 "AUTO" indicator lights up in the display.

- Normally, set to "AUTO" (auto tuning). If the radio waves are weak and there is a lot of interference, switch to manual tuning. (With manual tuning, stereo broadcasts will be received in monaural.)

- 4 Use the **MULTI CONTROL** Δ/∇ (or **Multi** Δ/∇ keys, **Tune** +/ - keys) to select the station.

 "TUNED" indicator is displayed when a station is received. "ST." indicator lights when a broadcast is being received in stereo.

Auto tuning:

The next station is tuned automatically.

Manual tuning:

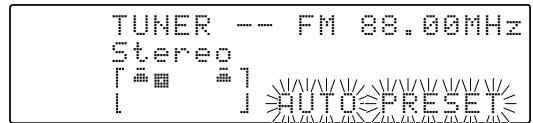
Use the **MULTI CONTROL** Δ/∇ (or **Multi** Δ/∇) to select the desired station.

Presetting radio stations

Collective presetting of stations

(For U.S.A., Canada and Australia)

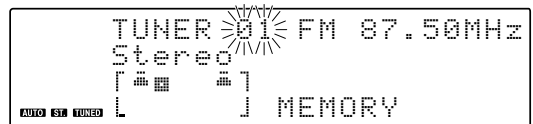
- 1 Use the **INPUT SELECTOR** key (or the **TUNER** key) to select the tuner.
- 2 Use the **BAND** key (or the **Band** key) to select the broadcast band to "FM".
- 3 Press and hold the **ENTER** for more than 2 seconds.



- A maximum of 40 stations of the band presently being received will be preset.
- Use the Manual Preset function if a desired FM station cannot be preset using the Auto Preset function or when it is required to preset AM stations.

Presetting radio stations manually

- 1 Tune to the station you want to store.
- 2 Press the **ENTER** while receiving the station.

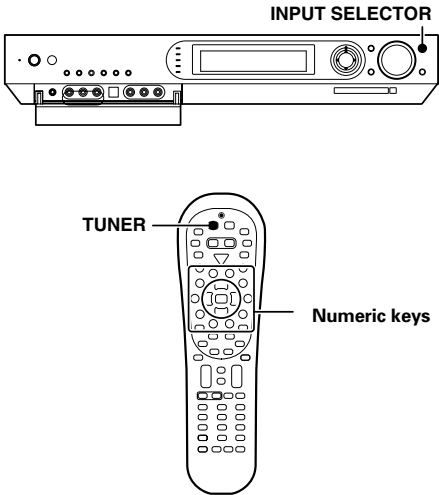


Proceed to step 3 within 20 seconds. (If more than 20 seconds elapse, press the ENTER again).

- 3 Use the **MULTI CONTROL** Δ/∇ (or the **Multi** Δ/∇ keys) to select one of the station presets (1 – 40).
- 4 Press the **ENTER** again to confirm the setting.

- Repeat steps 1, 2, 3, and 4 to store as many stations as necessary.
- If you store a station at a previously used preset, the old station will be replaced by the new one.

Receiving preset stations



- 1 Use the **INPUT SELECTOR** key (or the **TUNER** key) to select tune as the source.
- 2 Enter the number of the preset station you want to receive (up to "40").

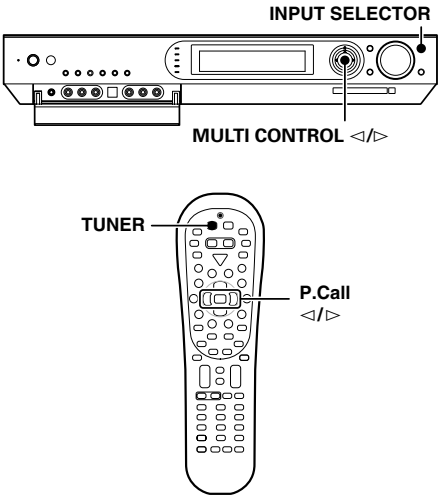
Press the numeric keys in the following order:

- For "15", press **+10**, **5**
- For "20", press **+10**, **+10**, **0**

- If you make a mistake entering a two digit number, press the **+10** key repeatedly to return to the original display and start again.



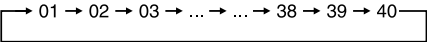
Receiving preset stations in order (P.CALL)



- 1 Use the **INPUT SELECTOR** key (or the **TUNER** key) to select tune as the source.
- 2 Use the **MULTI CONTROL** **</>** (or the **P.Call** **</>** keys) to select the desired station.

- Each time you push the Joystick, another preset station is received in order.

Pushing the Joystick to **>** does the following:



Pushing the Joystick to **<** does the following:

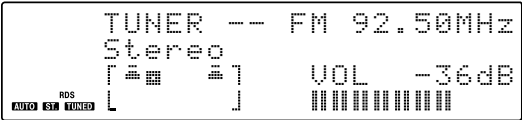


Holding the Joystick on **>** or **<** direction, lets you skip through the presets, receiving each preset station at 0.5 second intervals.

Using RDS (Radio Data System) (For Europe only)

RDS is a system that transmits useful information (in the form of digital data) for FM broadcasts along with the broadcast signal. Tuners and receivers designed for RDS reception can extract the information from the broadcast signal for use with various functions, such as automatic display of the station name.

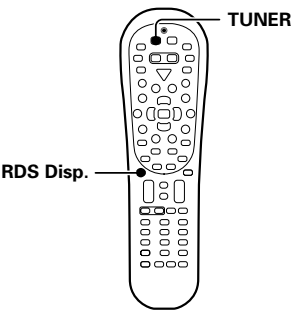
RDS functions:
PTY (Program TYpe Identification) Search - [37]
Automatically tunes to a station that is currently broadcasting the specified program type (genre).
PS (Program Service Name) Display
Automatically displays the station name transmitted by the RDS station.
RDS AUTO MEMORY function - [37]
Automatically selects and stores up to 40 RDS stations in the preset memory.
If fewer than 40 RDS stations have been stored in the preset memory, regular FM stations will be stored in the remaining places.
Radio Text function
Displays the radio text data transmitted by some RDS stations when you press the RDS Disp. (display) key. There is "No Radio Text" if no text data is transmitted.
The "RDS" indicator lights up when an RDS broadcast (signal) is received.



Note
Some functions and function names may differ for certain countries and areas.

Before using a function utilizing the RDS, be sure to perform the RDS Auto Memory operation by referring to the description in "Presetting RDS stations (RDS AUTO MEMORY)". - [37]

Using the RDS Disp. (Display) key



Pressing the RDS Disp. key changes the contents of the display.

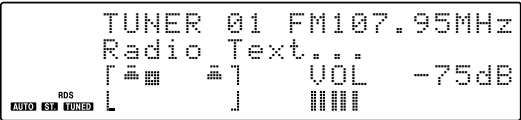
Each press switches the display mode as follows :

- ① PS (Program Service name) display
- ② RT (Radio Text) display
- ③ Frequency display

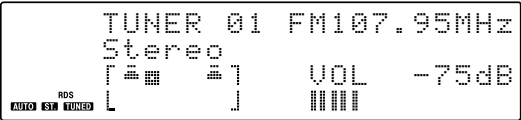
- ① **PS (Program Service name) display :**
The station name is displayed automatically when an RDS broadcast is received.
If no PS data was sent, "NO PS" is displayed.



- ② **RT (Radio Text) display :**
Text data accompanying the RDS broadcast scrolls across the display. "No Radio Text" or "Radio Text Reading" is displayed if the current RDS station does not provide RT data.



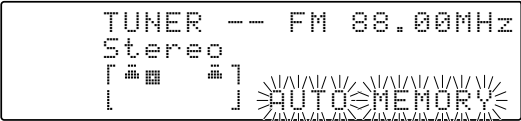
- ③ **Frequency display :**
Displays the frequency of the current station.



Presetting RDS stations (RDS AUTO MEMORY)

This function automatically stores up to 40 RDS stations in the preset memory. In order to use the PTY function, the RDS stations must be stored in the preset memory using the RDS Auto Memory function.

- 1 Use the **INPUT SELECTOR** key (or the **TUNER** key) to select tune as the source.
- 2 Use the **BAND** key (the **Band** key) to select the broadcast band to "FM".
- 3 Press and hold the **ENTER** for more than 2 seconds will start **AUTO MEMORY**.

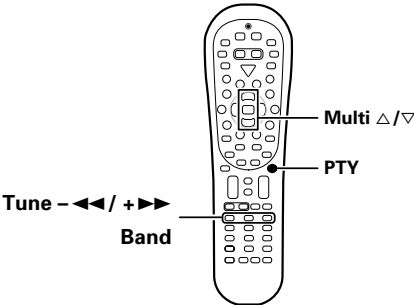


- After a few minutes, up to 40 RDS stations are preset in order from channel "01".
- Stations already stored in the preset memory may be replaced by RDS stations. (i.e., If the RDS AUTO MEMORY function detects 15 RDS stations, the stations currently preset at numbers 01~15 will be replaced by the RDS stations.)

Tuning by Program Type (PTY search)

This function lets you set the tuner to automatically search for stations which are currently broadcasting the type of program (genre) you want to listen to.

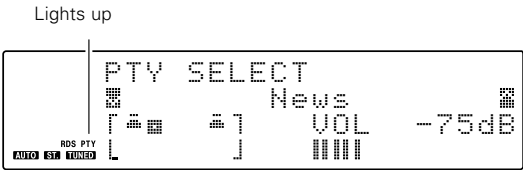
Under certain receiving conditions, it may take more than 1 minute to complete the search.



Preparations

- Execute the RDS auto memory procedure.
- Set the broadcast band to FM.
- Tune to an RDS station.

- 1 Press the **PTY** key to activate the **PTY** search mode.



When an RDS broadcast is received, the program type is shown on the display. If no PTY data is available, or if the station is not an RDS station, "None" is displayed.

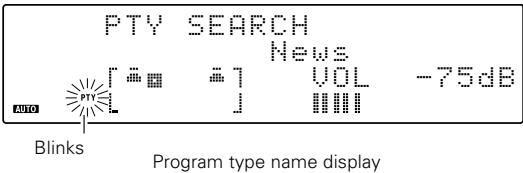
- 2 While the "PTY" indicator is lit, use the **MULTI CONTROL** </> (or the **P.Call** </> keys) to select the program type of your choice.

Program type table

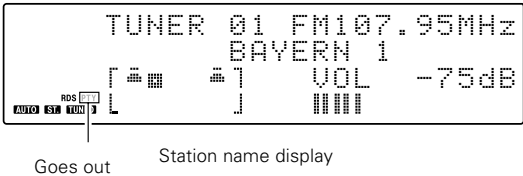
Program Type Name	Display	Program Type Name	Display
Pop Music	Pop Music	Weather	Weather & Metr
Rock Music	Rock Music	Finance	Finance
Easy Listening Music	Easy Listening	Children's Programmes	Children's Progs
Light Classical Music	Light Classics M	Social Affairs	Social Affairs
Serious Classical Music	Serious Classics	Religion	Religion
Other Music	Other Music	Phone In	Phone In
News	News	Travel	Travel & Touring
Current Affairs	Current Affairs	Leisure	Leisure&Hobby
Information	Information	Jazz Music	Jazz Music
Sport	Sport	Country Music	Country Music
Education	Education	National Music	National Music
Drama	Drama	Oldies Music	Oldies Music
Culture	Cultures	Folk Music	Folk Music
Science	Science	Documentary	Documentary
Varied Speech	Varied Speech	Alarm Test	Alarm Test
Alarm	Alarm-Alarm!		

- 3 Press the **PTY** key to start searching.
Example: Searching for a Pop Music broadcast.

Display while searching.



Display when a station is received.



- No sound is heard while "PTY" is blinking.
- If the desired program type cannot be found, "NO PROGRAM" is displayed, then after several seconds the display returns to the original display.

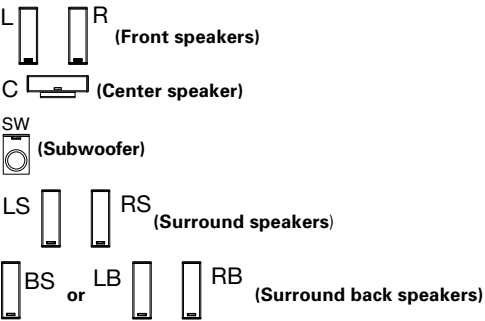
To select another program type.

Repeat steps 1, 2 and 3.

Ambience effects

This receiver is equipped with listening modes that allow you to enjoy an enhanced sonic ambience with a variety of video sources. In order to obtain the optimum effect from the surround modes, make sure to input the proper speaker settings beforehand. → [20]

Surround modes



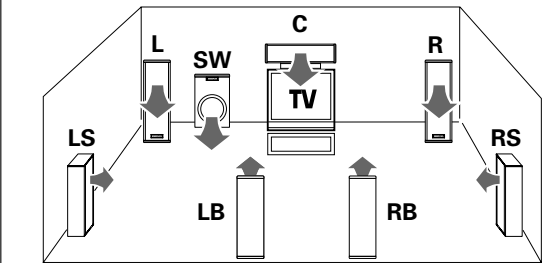
Dolby Digital EX

Dolby Digital EX is an extension of Dolby Digital technology, Dolby Digital EX creates six full-bandwidth output channels from 6.1-channel sources. This is done using a matrix decoder that derives three surround channels from the two in the original recording. This is achieved by using three different surround signals, Left Surround, Right Surround, and Back Surround, each driving its own array of speakers. Think of it as adding a center channel for the rear speakers, which give more diffuse and natural surround effect, even if you wanted the ability to completely encircle the audience with sound, positioning sound effects exactly where they would be heard in real life.

Note

For best results, Dolby Digital EX should be used with movie soundtracks recorded with Dolby Digital Surround EX which contain a digital flag that will automatically activate this feature. However, for titles released prior to late 2001, this feature has to be activated manually.

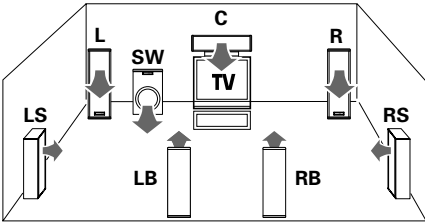
This model lets you enjoy Dolby Digital (and Dolby Surround) program sources, even if you connect only the Front Speakers. However, in order to enjoy the benefit of true 6.1 channel Dolby Digital Surround EX sound, KENWOOD recommends that you connect a full set of speakers.



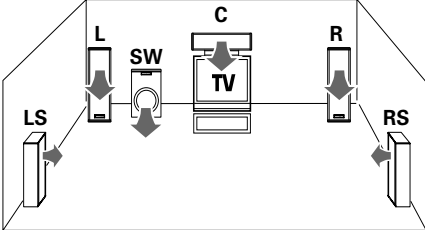
Dolby PRO LOGIC IIx/Dolby PRO LOGIC II

Dolby Pro Logic IIx was designed specifically to provide a new sense of spatiality, directionality and articulation of sounds from Dolby Surround encoded sources. This is achieved with an intelligent, built-in feedback logic design, a matrix surround decoding and the decoding of stereo, full bandwidth surround outputs. The PRO LOGIC IIx modes programmed into this receiver are "MOVIE", "MUSIC" and "GAME". The "MOVIE" mode of the PRO LOGIC IIx has preset characteristics to produce a calibrated, high-level surround sound playback while the "MUSIC" mode has user-adjustable characteristics to offer the three optional controls, like "Dimension", "Center Width" and "Panorama" modes to allow optimization of the soundfields as desired. The "Dimension" control allows the user to gradually adjust the soundfield either towards the front or towards the rear; the "Center Width" control allows various adjustment of the left-center-right speakers' balance; the "Panorama" mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging. The "GAME" mode is designed for playing video games and enhances the powerful feeling of sound.

Dolby PRO LOGIC IIx



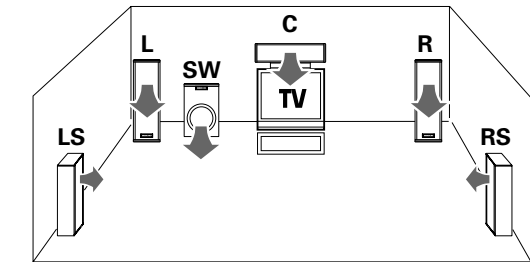
Dolby PRO LOGIC II



Dolby Digital

Dolby Digital surround format lets you enjoy up to 5.1 channels of digital surround sound from Dolby Digital program sources (such as Laserdisc or DVD software marked). Compared with previous Dolby surround, Dolby Digital provides even better sound quality, greater spatial accuracy, and improved dynamic range.

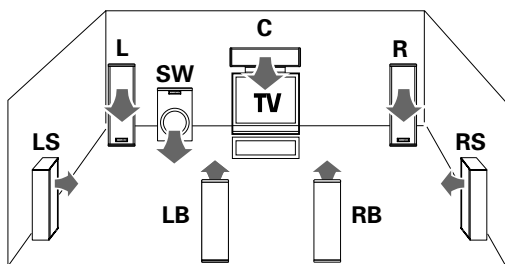
This model lets you enjoy Dolby Digital (and Dolby Surround) program sources, even if you connect only the Front Speakers. However, in order to enjoy the benefit of true 5.1 channel Dolby Digital surround sound, KENWOOD recommends that you connect a full set of speakers.



DTS-ES

The DTS-ES (Digital Theater System-Extended Surround) represents 6.1-channel Discrete Surround format, expanding upon 5.1 surround. DTS-ES format is a 6.1 channel sound system for movie theaters that includes an additional surround center channel matrixed within surround left and surround right. It's compatible on predecessor DTS 5.1 system. The extra channel allows more accurate placement and steering of sound across the rear soundstage. The DTS-ES receiver will be required, to experience a discrete 6.1-channel mix. The DTS-ES decoders used in home cinema systems have decoding options for utilizing the extra channel, in addition to processing existing 5.1 channel surround sound :

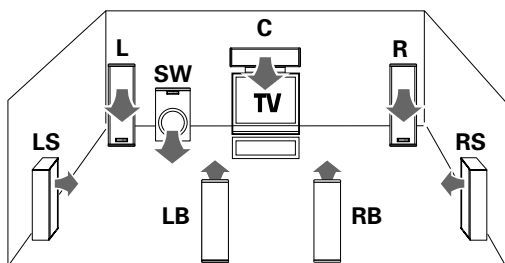
DTS-ES Discrete 6.1 and DTS-ES Matrix 6.1 add the surround back channel audio to the DTS 5.1-channel format to improve the acoustic positioning and makes acoustic image movement more natural with the 6.1-channel reproduction.



NEO:6

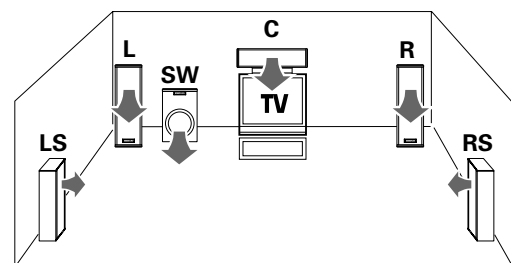
NEO:6 is a new technology which decodes 2-channel signals into 6-channel signals using high-accuracy digital matrix technology. For the best results, DTS-ES should be used with movie sound tracks recorded with DTS-ES format which contain a digital flag that will automatically activate this feature. However, for some titles, this feature has to be activated manually.

According to the signals to be played back, DTS NEO:6 uses either the NEO:CINEMA mode optimized for movie playback or the NEO:MUSIC mode optimized for music playback.




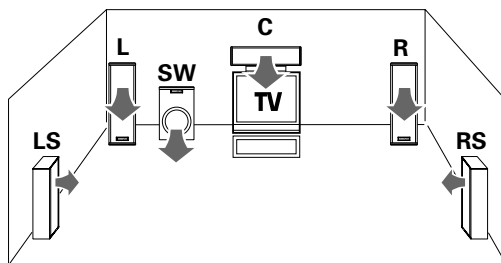
DTS 96/24

The DTS 96/24 enables 5.1-channel playback with broad bandwidth over 40 kHz and high resolution without affecting the picture quality of DVD video. As it is compatible with the DTS surround playback, it makes it possible to play DTS 5.1-channel surround audio even when the AV amplifier incorporates only the DTS or DTS-ES decoder.



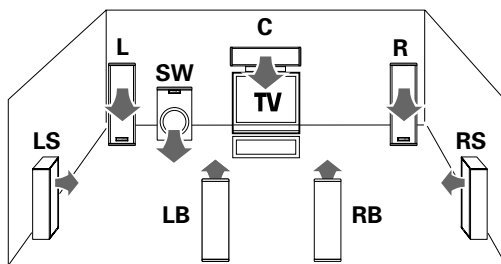
DTS

The DTS employs a larger amount of data than Dolby Digital to play surround sound with higher quality. The DTS can be used with DVD and LaserDisc software carrying the  mark. Although the number of channels is 5.1 and identical to Dolby Digital, the DTS format features lower audio compression rate in digital recording, which enables audio with more profoundness and higher S/N. The wider dynamic range and better channel separation also contribute to make the surround sound more precise and larger in scale.



DSP mode

The DSP mode lets you add the atmosphere of a live concert or hall to almost any type of program source. These modes are particularly effective when used with stereo program sources, like CD, television, and FM radio. You might enjoy trying the ARENA, JAZZ CLUB, THEATER, STADIUM or DISCO mode the next time you watch a concert or sporting event!



What's DSP?

DSP stands for Digital Signal Processor.

The way a sound is heard in an actual environment depends on a variety of different factors. One of the most important is reverberation (the act of decaying elements of sound echoing in various places).

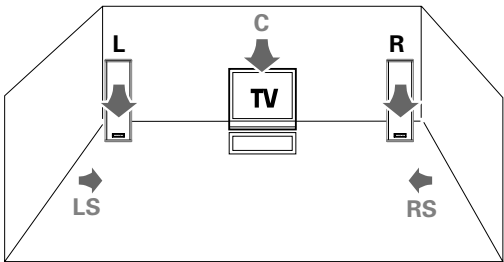
The DSP modes produce the feeling of presence by using the DSP to create reverberation, without spoiling the sound quality of the original signal.

LFE = Low Frequency Effects. This channel delivers separate non-directional bass signals to the subwoofer for more dynamic deep bass sound effects.

When there is a LFE channel input in the DOLBY DIGITAL or DTS format, the 'LFE' indicator lights on the display of the receiver.

Dolby Virtual Speaker

The Dolby Virtual Speaker features a virtual surround sound field. This implements an effect as if there are multiple speakers in the listening room.



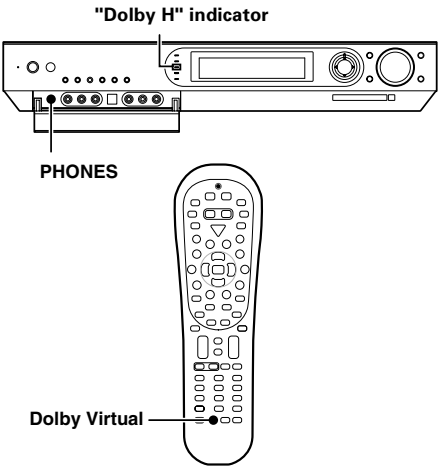
Dolby Headphone

When headphones are used in music listening, the audio of the left (or right) channel reaches only the left (or right) ear so the listener cannot feel the presence of acoustic images on the front. The Dolby Headphone simulates a virtual room and include its acoustic characteristics in the left and right headphone signals. As a result, the listener can hear the same components as in speaker listening through the left and right ears and therefore feel as if the sound source is located on the front of the listener.

Virtual modes

The following modes allow you to enjoy powerful surround audio even when you use only two speakers or listen through headphones.

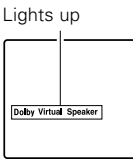
- In the Dolby Virtual Speaker and Dolby Headphone modes, only the listen modes for 2 channels can be selected. Also, the desired listen mode may be unable to be selected depending on the reproduced signals. → 41



How to set the Dolby Virtual Speaker mode (when not using headphones):

Press the Dolby Virtual key for the following selections:

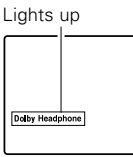
- ① "DVS VS Wide" : The virtual surround effect can be given added expansion and spatial feeling.
 - ② "DVS VS Ref." : * Standard setting.
 - ③ "DVS VS Off" : Cancel
- * This mode can be selected only when the surround speaker setting is OFF.



How to set the Dolby Headphone mode (when using headphones):

Press the Dolby Virtual key for the following selections:

- ① "Dolby H DH 1": Monitor room in a studio with small amount of reverberations.
- ② "Dolby H DH 2": General listening with optimum amount of reverberations.
- ③ "Dolby H DH 3": Wide space such as a movie theater.
- ④ "Dolby H DH Off": Cancel



- The Dolby Virtual Speaker or Dolby Headphone mode is defeated when the DUAL SOURCE mode or REC MODE is ON.

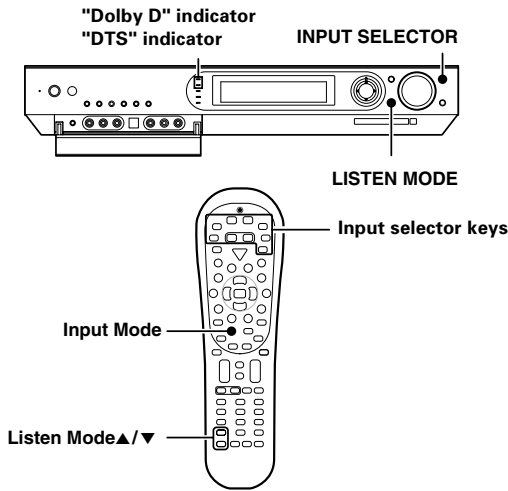
Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", "Surround EX" and the double-D symbol are trademarks of Dolby Laboratories.

"DTS", "DTS-ES Extended Surround", "Neo:6" and "DTS 96/24" are trademarks of Digital Theater Systems, Inc.



Surround play

The desired listen mode can be selected according to the input signal.



Preparations

- Turn ON related components.
- Complete **"Preparing for playback" (speaker settings)**. → 20
- Use the **INPUT SELECTOR** key (or Input Selector keys) to select the component you wish to play back with surround sound.
- Use the **Input Mode** key to select the input mode (analog or digital) for the source you wish to play back. → 9
- Noise will be produced when a DTS source is played by selecting the analog input.

- 1 Start playing the video software.**
- 2 Press the LISTEN MODE key (or the Listen Mode ▲/▼ keys) to select the listening mode.**

The listening mode settings are stored separately for each input selector.

If the input mode is set to full auto ("AUTO DETECT" lights), this model selects the optimal listening mode automatically based on the type of input signal and the speaker settings.

Each press the LISTEN MODE key (or the Listen Mode ▲/▼ keys) switches the setting as listed below.

The listening mode settings are different depending on the type of input signal or speaker settings.

Listen modes available with Dolby Digital EX or Dolby Digital playback: ("Dolby D" indicator lights up)

Main example of medium:
Multi-channel digital source such as DVD.

- ① "Dolby Digital":**
DOLBY DIGITAL surround
- ② "Dolby Digital EX":**
DOLBY DIGITAL EX surround
- ③ "Dolby D + PLIIx Movie":**
DOLBY DIGITAL surround +
DOLBY PRO LOGIC IIx surround MOVIE mode*
- ④ "Dolby D + PLIIx Music":**
DOLBY DIGITAL surround +
DOLBY PRO LOGIC IIx surround MUSIC mode
- ⑤ "Dolby Digital Stereo":**
DOLBY DIGITAL stereo playback.

- * Can be selected only when two surround back speakers are connected.
- You can also adjust the midnight mode as desired. → 45

Listen modes available with DTS, DTS-ES (Matrix or Discrete) or DTS 96/24 playback: ("DTS" indicator lights up)

Main example of medium:
Multi-channel digital source such as DVD.

- ① "DTS":**
DTS surround
- ② "DTS + NEO:6 Cinema":**
DTS surround + DTS NEO:6 surround CINEMA mode
- ③ "DTS + NEO:6 Music":**
DTS surround + DTS NEO:6 surround MUSIC mode
- ④ "DTS-ES Matrix 6.1":**
DTS-ES 6.1-channel Matrix surround *1
- ⑤ "DTS-ES Discrete 6.1":**
DTS-ES 6.1-channel Discrete surround *2
- ⑥ "DTS 96/24":**
DTS 96/24 surround *3
- ⑦ "DTS Stereo":**
DTS stereo playback
- ⑧ "DTS 96/24 Stereo":**
DTS 96/24 stereo playback

- *1 Can be selected only with DTS-ES 6.1ch Matrix Surround.
- *2 Can be selected only with DTS-ES 6.1ch Discrete Surround.
- *3 Can be selected only with DTS 96/24 Surround.
- You can also adjust the midnight mode as desired. → 45

Listen modes available with analog or PCM playback:

Receiver Operations

Main example of medium:	
Digital sources including DVD 96 kHz linear PCM and CD.	
Analog source such as VCR or radio broadcasting.	
① "Dolby PL IIx Movie":	DOLBY PRO LOGIC IIx surround MOVIE mode *1
② "Dolby PL IIx Music":	DOLBY PRO LOGIC IIx surround MUSIC mode *1 *2
③ "Dolby PL IIx Game":	DOLBY PRO LOGIC IIx surround GAME mode *1
④ "Dolby PL II Movie":	DOLBY PRO LOGIC II surround MOVIE mode
⑤ "Dolby PL II Music":	DOLBY PRO LOGIC II surround MUSIC mode *2
⑥ "Dolby PL II Game":	DOLBY PRO LOGIC II surround GAME mode
⑦ "Dolby Pro Logic":	DOLBY PRO LOGIC surround
⑧ "NEO:6 Cinema" or "NEO:6 96k Cinema":	DTS NEO:6 surround CINEMA mode
⑨ "NEO:6 Music" or "NEO:6 96k Music":	DTS NEO:6 surround MUSIC mode *1 *3
⑩ "Arena":	DSP surround ARENA mode *4
⑪ "Jazz Club":	DSP surround JAZZ CLUB mode *4
⑫ "Theater":	DSP surround THEATER mode *4
⑬ "Stadium":	DSP surround STADIUM mode *4
⑭ "Disco":	DSP surround DISCO mode *4
⑮ "Stereo":	Normal stereo playback. *5

*1 Cannot be selected in Dolby Virtual Speaker and Dolby Headphone modes.

*2 The sound field can be adjusted as desired using the PANORAMA, DIMENSION and CENTER WIDTH modes. →[44]

*3 The sound field can be adjusted as desired using the CENTER IMAGE modes. →[45]

*4 Cannot be selected in Dolby Virtual Speaker and Dolby Headphone modes or with a 96 kHz linear PCM signal input.
The effect level of the DSP surround mode can be adjusted as desired. →[43]

*5 In Dolby Virtual Speaker and Dolby Headphone modes, the Dolby Digital signal input cannot be listened to in the stereo mode.

3 Adjust the volume.

Note

- Certain modes may be unavailable depending on the type of input signal or speaker setting.
- If an optimum surround effect cannot be obtained or the desired mode cannot be selected, check the speaker and input mode settings. →[9] →[20]

Dolby Digital Surround EX compliant disc :

Dolby Digital Surround EX compliant disc contains identification signals. When you choose FULL AUTO during "Input mode settings" (→[9]), this amplifier detects the identification signals and change the LISTEN mode to the DOLBY DIGITAL EX (Dolby Digital Surround EX mode) automatically. But sometimes we find some discs which are Dolby Digital Surround EX compliant disc but it does not contain the identification signals. If you find the notice like "Surround EX" on the label of disc or package, you can choose DOLBY DIGITAL EX, then you can enjoy Dolby Digital Surround EX sound.

Switching the listen mode temporarily to the stereo mode

Press the **Stereo** key to switch the current listen mode temporarily to the Stereo mode. Pressing the key again restores the original listen mode.

- The original listen mode is also restored when the input selector is switched or the receiver is turned OFF then ON again.